PSYCHE

JULY, 1923

EDITORIAL

What is the æsthetic value of the spoken word as distinguished from the 'silent' reading in which we chiefly indulge? This, besides being a critical question of the first importance, is a problem on which psychologists have hitherto been far from happy in their remarks.

To encourage "the beautiful speaking of poetry" a contest in Verse Speaking is being organised in Oxford. The Contest or Court will be known as the Oxford Recitations, and will be held on Tuesday and Wednesday, July 24th and 25th, in the Examination Schools. The promoters hope that a similar contest may be held each year henceforth to encourage the beautiful speaking of verse in young and old.

In many primitive communities the speaking of verse has been one of the chief delights of life. In this country it held such rank until, according to one view, the printing press made it easy for the poet to address his audience by other means than his voice and personality. Since that time the nation has neglected spoken verse in favour of verse printed or set to music.

Since poets no longer set the standards for the speaking of their work, those standards are set by others who have often no feeling of the poet's intention. It is admitted that some actors, actresses and teachers of speaking are still able to speak beautifully; on the other hand, it is felt that the actor who would prefer to speak prose, and the teacher whose aim is a certificate, have done much to bring the speaking of verse into disfavour.

But the poets themselves are not always impeccable speakers, nor, in spite of the Expressionist theories which are gaining so much

ground at present, is there any reason to expect them to speak verses especially well. An analysis of the poetic experience, such as that which we print elsewhere in this number, suggests that while the silent reading of poets is likely to be of great value, when they come to read aloud the case may be different. Upon this and all the other problems of criticism the critic must come to rely more and more upon the psychologist, who alone can furnish him with the necessary data and distinctions.

As the author of the article points out, the dogmatic guess-work which has so long characterised the writings of critics when they touch upon psychological topics, is rapidly ceasing to have any excuse. In this article, which will form a section of a book on *The Principles of Criticism*, to be published early next year, Mr. Richards, we think, gives the outline of the psychological basis for criticism, to the lack of which the notorious *impasse* in the discussion of literary æsthetics is due. We therefore commend his exposition to the attention of all who are taking part in the forthcoming Recitations, or who, in the capacity of hearers, find themselves unable to share the enthusiasm of the promoters of this auditory feast.

The Recitations will be held under the Presidency of Sir Herbert Warren, with the Warden of All Souls, and Prof. W. P. Ker, Professor of Poetry, as Vice-Presidents. The Adjudicators of the various classes in the Contest will be Sir Herbert Warren (President of Magdalen), Prof. Gilbert Murray (Regius Professor of Greek), Prof. George Gordon (Professor of English Literature), Mr. Laurence Binyon and Mr. John Masefield.

The nine Classes in the Contest have been provisionally arranged as follows:—

I. For competitors between twelve and fifteen years of age.
II. For competitors between fifteen and eighteen years of age.
III. Narrative poetry, open only to men not under eighteen years of age.
IV. Reflective poetry, open only to women not under eighteen years of age.
V. Dramatic poetry, open to men and women not under eighteen years of age.
VI. Ballad poetry, open to men and women not under eighteen years of age.
VII. Descriptive and Reflective poetry, open to men and women not under eighteen years of age.
VIII. Lyric poetry, open to men and women not under eighteen years of age.
IX. A class open to all who have obtained more than eighty per cent. of marks in any of the foregoing classes.

On the day following the conclusion of this poetical tourney Oxford will welcome the first representative psychological gathering which has been held since the war. The 1923 Congress, which is confined to psychologists and students of psychology, of whom about 230 will attend, will in fact take place from July 26 to August 2nd, and will be an event of historical importance for two reasons. In the first place it is the only assembly of its kind to which, with the approval of the chief French organisations concerned, delegates from Central Europe have as yet been invited; and secondly, there is to be an important Exhibition of Apparatus at a time when experimental work is particularly in need of stimulus. The recent reaction against laboratory research, with which the name of Dr. Rivers was prominently associated at the time of his death, has probably gone further than would have been possible if those engaged on the borderlands of physiology had been more directly in touch with those mechanical developments which must be relied upon to accelerate progress in the experimental field.

Now for the first time since 1914 it will be possible to take stock of the results which have been achieved both on the Continent and in America, though how far the present Congress will succeed in covering the necessary ground cannot be stated at this stage. The most important material now challenging the attention of psychologists, the mediumistic phenomena reported by Baron Schrenck-Notzing, will probably be left altogether out of account. The claims of Dr. Farigoule in connection with "Eyeless sight," as a result of his Paris experiments, are likely to remain untested, though the Secretary of the Congress, Mr. Sprott, of the Cambridge Psychological Laboratory, drew attention to Dr. Farigoule's monograph in our first volume. 'Behaviourism' has at last made its way across the Atlantic, and Psycho-analysis will be represented by such well-known exponents as Adler, Ferenczi and Abraham. It is to be hoped that we shall hear something of the distinguished French School whose co-operative effort forms the subject of our French communication elsewhere, and the fact that Professors Janet, Piéron and Claparède have all promised to attend means that the French point of view will at least be adequately represented.

Public appreciation of the importance of psychological research continues to be manifested throughout the United States.

Even the theoretical phase which was on the wane for some time has shown new life, and the war between behaviorism and traditional psychology has now reached a critical point. Some American colleges are citadels of behaviorism, while others would not engage a behaviorist as teacher. The rise of behaviorism has at least to its credit the *rapprochement* which it has helped to effect between biologists and physiologists and psychologists. That psychology is now recognised as a natural science is evident from the fact that psychologists are eligible to the award of National Research Fellowships in the Biological Sciences which have been created by the Rockefeller Foundation. In the committee of nine constituting the Board of Fellowships are to be found the following psychologists: Prof. Raymond Dodge, of Wesleyan University, and Chairman, Division of Anthropology and Psychology National Research

Council; Prof. C. E. Seashore, Dean of the Graduate College of the University of Iowa, and Prof. E. L. Thorndike, of Teachers College, Columbia University.

The opening of the Los Angeles Diagnostic Clinic for Neuropsychiatry and Psychology in California brings to mind the fact that the West is more progressive in such matters than the East. It is well known that Universities in the West and Middle West have an enrollment of as many as a thousand students in the elementary courses in psychology.

Another sign of the times is the resolution which Representative Cable has presented to the House of Representatives in connection with the use of psychological tests for the selection or elimination of immigrants. This is probably the first step towards introducing psychological measures in national legislation.

The resolution reads as follows:

RESOLUTION.

Whereas section 3 of the Immigration Act of February 5, 1917, provides for the exclusion from the United States of physically, mentally, and morally unfit aliens; and

Whereas the procedure at the ports of entry for detecting mental defects amongst arriving aliens is not complete; and

Whereas scientific research has brought to perfection certain methods for measuring mental capacity known as "intelligence tests"; and

Whereas mental tests given to soldiers of the United States during and since the World War; as applied by the United States Public Health Service to a limited number of immigrants of doubtful admission; as used by the United States in civil service examinations; as used in schools, colleges, and universities in classifying pupils and students; as used by insurance and other large companies in selecting salesmen; as used in large industries for classifying men in work most adaptable to them; as used by business enterprises in the selection of office force, have demonstrated that such intelligence tests can be effective and feasible for the selection of desirable immigrants; and

Whereas students of the problems relating to immigration have indicated a belief that the standard of immigrants seeking admission to the United States may be raised by the application of the intelligence tests, and the Secretary of Labor and the Surgeon General of the United States Public Health Service have already full legal power and authority to apply such tests: Therefore be it

Resolved, That the Secretary of Labor and the Surgeon General of the United States Public Health Service be, and they are hereby, directed, if not incompatible with the public welfare, to inform the House of Representatives why said scientific data, including intelligence tests being now used in a limited number of cases, can not be applied in all cases for the exclusion from admission to the United States of undesirable immigrants.

Though the author does not appear to be aware of recent English criticism of the theory of " collective representations," we welcome the English translation of Professor Lévy-Bruhl's new work on *Primitive Mentality*, which has just been published by Messrs. Allen & Unwin. With the possible exception of Frazer and Westermarck, there is no writer who has contrived to assemble in an accessible form so much interesting information about savage customs and attitudes. In particular, students of psychology cannot afford to neglect what this lucid exponent of positivist thought has to say on the subject of " bad deaths " (pp. 261–306). The change from the view that all misfortune is a sign of divine displeasure or of an evil genius, and that persons threatened by any form of " bad death " must on no account be assisted to escape, has been slow. In Europe to-day it lingers perhaps in the form of a fatalistic attitude to war, to the " bad death " which threatens communities from the evil genius of human nature, but it is to the gradual decay of such beliefs that most of our present troubles are now due, owing to the effect of the development of a social conscience (without compensation in social prevision) on the increase of population. The history of Fatalism has yet to be written, but when it is attempted the view that all deaths are bad deaths, that the victim must never struggle against the ineluctable, will be found to have as its corollary the belief that all births are good births and that humanity must ever support the insupportable.

The gospel of Work, to which Aryan Fatalism naturally leads, has been vigorously challenged of late by thinkers who have come under the quietistic influence of the East, and it is possible that even the Hobo and the Mollusc may one day receive their due. The Western world, says the now doubtful sociologist, and America in particular, has been lead astray in its valuation of leisure : but only when in the grip of a heat-wave does the white man's press descant upon the Right to be Idle. That all our technical successes, all our scientific discoveries, have led but a speeding up of the human machine and to an intensification of struggle, is to-day a commonplace. Must we await a radical alteration in the collective Psyche—a new prophet, a deflection of the Gulf Stream—or would it suffice for Royalty to be discovered playing spillikins ? The question raises psychological problems of such fundamental import that we gratefully take refuge behind the Right to be Idle—till next October.

PSYCHOLOGY AND THE READING OF POETRY

By I. A. RICHARDS

Lecturer in English, Cambridge University

The qualifications of a good critic are three. He must be an adept at experiencing, without eccentricities, the state of mind relevant to the work of art he is judging. Secondly, he must be able to distinguish experiences from one another as regards their less superficial features. Thirdly, he must be a sound judge of values.

Upon all these matters psychology, even in its present conjectural state, has a direct bearing. The critic is, throughout, judging of experiences, of states of mind; but too often he is needlessly ignorant of the general psychological form of the experiences with which he is concerned. He has no clear idea as to the elements present or as to their relative importance. Thus, an outline or schema of the mental events, which make up the experience of 'looking at' a picture or 'reading' a poem, can be of great assistance. At the very least an understanding of the probable structures of these experiences can remove certain misconceptions which tend to make the opinions of individuals of less service to other individuals than need be.

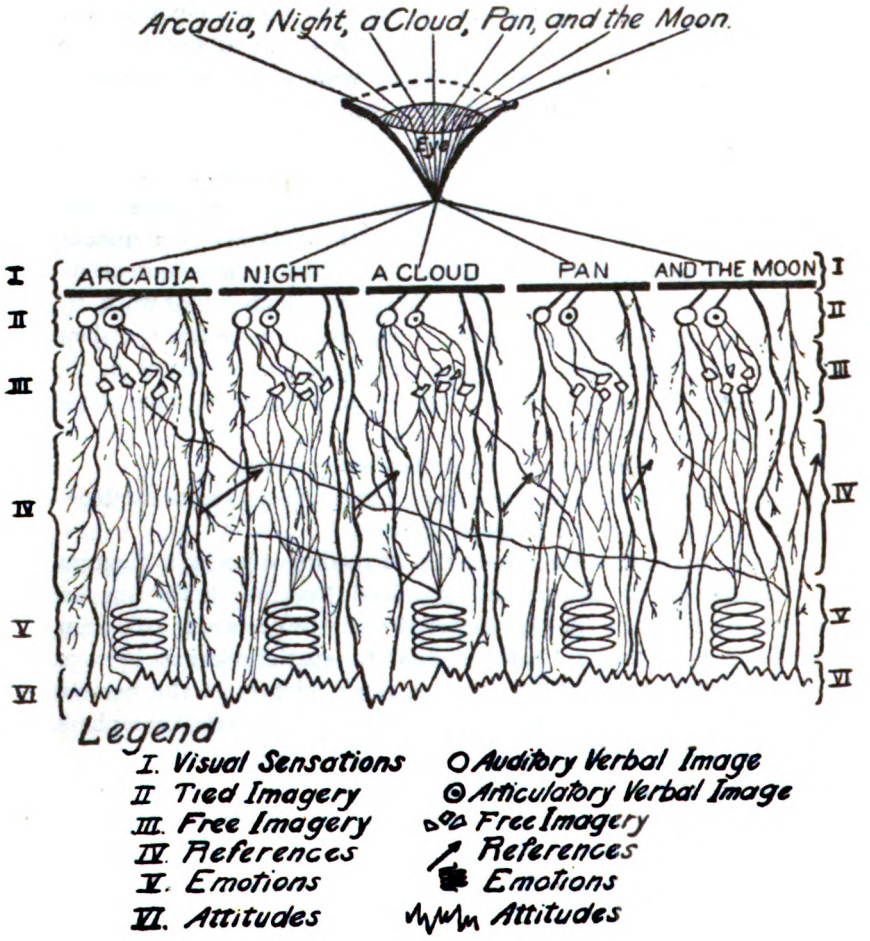
Two instances will show this. There are certain broad features in which all agree a poem of Swinburne is unlike a poem of Hardy. The use of words by the two poets is different. Their methods are dissimilar, and the proper approach and mode of rendering for a reader differs correspondingly. An attempt to read them in the same way is unfair to one, or both the poets, and leads inevitably to defects in criticism which a little reflection based upon psychology would remove. It is absurd to read Pope as though he were Shelley, but the essential differences cannot be pointed out with accuracy, unless such an outline of the general form of a poetic experience, as is here attempted, has been provided. The psychological means employed by these poets are demonstrably different. Whether the effects are also dissimilar is a further question for which the same kind of analysis is equally required.

This separation inside the poetic experience of certain elements which are means from certain other elements which are effects, or ends upon which the poetic value of the experience depends, leads up to our other instance to show the assistance which general psychology can render to criticism. It is unquestionable that the actual experiences, which even good critics undergo when reading, as we say, *the same poem*, differ very widely. In spite of certain conventions, which endeavour to conceal these inevitable discrepancies for social purposes, there can be no doubt that the experiences of readers in connection with particular poems are rarely similar. This is unavoidable. Some differences are, however much more important than others. Provided the ends, in which the value of the poem lies, are attained, differences in the means need not prevent critics from agreement or from mutual service. Those discrepancies alone are fatal which affect the fundamental features of experiences, the features upon which their *value* depends. But enough is now known of the ways in which minds work, for superficial and fundamental parts of experiences to be distinguished. The common mistakes of exaggerating personal accidents in the means by which a poem attains its end into the chief value of the poem, as when the line :

" The fringed curtain of thine eyes advance,"

is praised for the " ravishing beauty " of the visual image excited—are rapidly ceasing to have any excuse.

In the analysis of the experience of reading a poem, a diagram, or hieroglyph, is convenient, provided that its limitations are clearly recognised. The spatial relations of the parts of the diagram, for instance, are not intended to stand for spatial relations between parts of what is represented ; it is not a picture of the nervous system. Nor are temporal relations intended. Spatial metaphors, whether drawn as diagrams, or merely imagined, are dangers only to the unwary. The essential service which pictures can give in abstract matters, namely, the simultaneous and compact representation of states of affairs which otherwise tend to remain indistinct and confused, is worth the slight risk of misunderstanding which they entail.


Arcadia, Night, a Cloud, Pan, and the Moon.
Eye
ARCADIA
NIGHT
A CLOUD
PAN
AND THE MOON
I
II
III
IV
V
VI
Legend
I. Visual Sensations
II Tied Imagery
III. Free Imagery
IV. References
V. Emotions
VI. Attitudes
Auditory Verbal Image
Articulatory Verbal Image
Free Imagery
References
Emotions
Attitudes

WHAT HAPPENS WHEN WE READ A POEM

We may begin then with a diagrammatic representation of the events which take place when we read a poem. Other literary experiences will only differ from this in their greater simplicity.

The eye is depicted as reading a succession of printed words. As a result there follows a stream of reaction in which six distinct kinds of events may be distinguished.

1. The visual sensations of the printed words.
2. Images very closely associated with these sensations.
3. Images relatively free.
4. References to, or ' thinkings of,' various things.
5. Emotions.
6. Affective-volitional attitudes.

Each of these kinds of occurrences requires brief description and explanation.

THE VALUE OF A DIAGRAM

1. Upon the visual sensations of the printed words all the rest depends (in the case of a reader not previously acquainted with the poem) ; but with most readers they have in themselves no great importance. The individual shapes of the letters, their size and spacing have only a minor effect upon the whole reaction. No doubt readers differ greatly in this respect. With some, familiarity plays a great part. They find it unpleasant and disturbing to read a poem in any but the edition in which they first became acquainted with it. But the majority of readers are less exigent. Provided that the print is clear and legible, and allows the habitual eye-movements of reading to be easily performed, the full reaction is obtained equally well from widely differing sensations. Those for whom this is true have, in the present state of economic organisation, a decided advantage over the more fastidious. This does not show that good printing is a negligible consideration. The primary place of calligraphy in the Chinese arts is an indication to the contrary. It shows merely that printing belongs to another branch of the arts. In the poetic experience words take effect

through their associated images, or their substitutes, and through what we are, as a rule, content to call their meaning. What meaning is and how it enters into the experience we shall consider.

2. Tied Images.

Visual sensations of words do not commonly occur by themselves. They have certain regular companions so closely tied to them as to be only with difficulty disconnected. The chief of these are the auditory image—the sound of the words in the mind's ear—and the image of articulation—the feel in the lips, mouth and throat of what the words would be like to speak.

Auditory images of words are among the most obvious of mental happenings. Any line of verse or prose, read slowly, will, for most people, sound mutely in the imagination somewhat as it would if read aloud. But the degree of correspondence between the image sounds, and the actual sounds that the reader would produce, varies enormously. Many people are able to imagine word-sounds with greater delicacy and discrimination than they can utter them. But the reverse case is also found. What importance then is to be attached to clear, rich and delicate sound imagery in silent reading? How far must people who differ in their capacity to produce such images differ in their total reactions to poems? And what are the advantages of reading aloud? Here we reach one of the practical problems of criticism for which this analysis is required. A discussion is best postponed until the whole analysis has been given. The principal confusion which prevents a clear understanding of the point at issue does, however, concern images and may be dealt with here. It is of great importance in connection with the topic of the following section.

The sensory qualities of images, their vivacity, clearness, fullness of detail and so on, do not bear any constant relation to their effects. Images differing in these respects may have closely similar consequences. It seems probable that too much importance has been attached to the sensory qualities of images. What gives an image efficacy is less its qualities as an image than its character as a mental event peculiarly connected with a sensation. It is, in a sense which no one knows how to explain, a relict of a sensation, and its effects upon intellectual and emotional reactions depend far more upon its being, through this fact, a representative of a sensation, than upon its sensory resemblance to one. An image may lose almost all its sensory nature to the point of becoming scarcely an image at all, a mere image-substitute, and yet represent a sensation quite as adequately as if it were flaring with hallucinatory vividity. In other words, what matters is not the resemblance of an image to the sensation which is its prototype, but some

other relation, at present hidden from us, probably in the jungles of neurology.

Care then should be taken to avoid the natural tendency to suppose that the more clear and vivid an image is the greater will be its efficacy. There are people who, according to their trustworthy accounts, never experience any imagery at all. If certain views commonly expressed about the arts are true, by which vivid imagery is an all-important part of the experience, then these people are incapable of art experiences; a most unlikely conclusion. Much more probably the views in question are overlooking the fact that *something* takes the place of vivid images in these people and that, provided the image-substitute is efficacious, their lack of mimetic imagery is of no consequence. The efficacy required must, of course, include control over emotional as well as intellectual reactions. Needless perhaps to add that with persons of the image producing types an increase in delicacy and vivacity in their imagery will probably be accompanied by increased subtlety in effects. Thus the fact that certain great artists and critics have been remarkable for the vigour of their imagery and dependent upon it is not surprising. No one would deny the usefulness of imagery to some people, but that it is indispensable to all may well be questioned.

Articulatory imagery is less noticeable; yet the quality of silent speech is perhaps even more dependent upon these images than upon sound images. Collocations of syllables which are awkward or unpleasant to utter may be delightful to the ear. But as a rule the two sets of images are so intimately connected that it is difficult to decide which is the offender. In " Heaven, which man's generations draws," the sound doubtless is as harsh as the movements required are cramping to the lips.

The extent to which interference with one set of images will change the other may be well seen by a simple experiment. Most people, if they attempt a silent recitation while opening the mouth to its fullest stretch, will notice curious transformations in the auditory images. How the experiment should be interpreted is uncertain, but it is of use in making the presence of both kinds of verbal imagery evident to those who may have overlooked them hitherto. Images of articulation should not, however, be confused with those minimal actual movements which for some people (for all, as behaviorists maintain) accompany the silent rehearsing of words.

3. Free Imagery.

Free images, or rather one form of these, visual images, pictures in the mind's eye, occupy a prominent place in the literature of criticism, to the neglect somewhat of other forms of imagery, since

for every possible kind of sensation there is a corresponding possible image.

The assumption, natural before investigation, that all attentive and sensitive readers will experience the same images, vitiates most of the historical discussions from that of Longinus to that of Lessing. Even in the present day, when there is no excuse for such ignorance, the mistake still thrives, and an altogether too crude, too hasty, and too superficial form of criticism is allowed to pass unchallenged. It cannot be too clearly recognised that individuals differ not only in the type of imagery which they employ, but still more in the particular images which they produce. In their whole reactions to a poem, or to a single line of it, their free images are the point at which two readings are most likely to differ, and the fact that they differ may very well be quite immaterial. Fifty different readers will experience not one common picture but fifty different pictures. If the value of the poem derived from the value *qua* picture of the visual image called up then criticism might well despair. Those who would stress this part of the poetic reaction can have but crude views on pictures.

But if the value of the visual image in the experience is not pictorial, if the image is not to be judged as a picture, how is it to be judged? It is improbable that the many critics, some of them peculiarly well qualified in the visual arts, who have insisted upon the importance of imagery, have been entirely wasting their time. It ought to be possible to give an account of the place of free imagery in the whole poetic experience which will explain this insistence. What is required will be found if we turn our attention from the sensory qualities of the imagery, to the more fundamental qualities upon which its efficacy in modifying the rest of the experience depends. It has been urged above that images which are different in their sensory qualities may have the same effects. If this were not the case the absence of glaring differences between people of different image types would be astonishing. But since images may represent sensations without resembling them, and represent them in the sense of replacing them, as far as effects in directing thought and arousing emotion go, differences in their mimetic capacity become of minor importance. As we have seen, it is natural, for those whose imagery is vivid, to suppose that vivacity and clearness go together with power over thought and feeling. It is the power of an image over these that is as a rule being praised when an intelligent and sensitive critic appears merely to be praising the picture floating before his mind's eye. To judge the image as a picture is judged would, as we have seen, be absurd; and what is sought in poetry those painters and others

whose interest in the world is primarily sensory is not pictures but records of observation. 'The uncrumpling fern,' 'The stationary blasts of waterfalls,' 'Waked up by snow-soft sudden rains at eve.'

Thus, provided the images (or image-substitutes for the imageless) have the due effects, deficiencies in their sensory aspect do not matter. But the proviso is important. In all forms of imagery sensory deficiencies are for many people signs and accompaniments of defective efficacy, and the habit of reading so as to allow the fullest development to imagery in its sensory aspect is likely to encourage the full development of these more essential features, if the freaks and accidents of the sensory side are not taken too seriously.

Some exceptions to this general recommendation will occur to the reader. Instances in plenty may be found in which a full development of the sensory aspect of images is damaging to their effects:—

> "Thus piteously Love closed what he begat
> The union of this ever diverse pair!
> These two were rapid falcons in a snare,
> Condemned to do the flitting of the bat."

The emotional as well as the intellectual effects of the various images here suggested are much impaired if we produce them vividly and distinctly.

4. Impulses and References.

We have now to consider those more fundamental effects upon which stress has been laid above as the true places of the values of the experience. It will be well at this point to reconsult the diagram. The fine vertical lines which run capriciously downwards from the visual sensations of the words, through their tied imagery and onward to the bottom of the diagram, are intended to represent, schematically, streams of impulses flowing through in the mind.

They start in the visual sensations, but the depiction of the tied imagery is intended to show how much of their further course is due to it. The placing of the free imagery in the third division is intended to suggest that while some free images may arise from visual words alone, they take their character in a large part as a consequence of the tied imagery. Thus the great importance of the tied imagery is emphasised in the diagram.

These impulses are the weft of the experience, the warp being the pre-existing systematic structure of the mind, an organised system of possible impulses. The metaphor is of course inexact, since weft and warp here are not independent. Where these impulses run, and how they develop, depends entirely upon the

condition of the mind, and this depends upon the impulses which have previously been active in it. It will be seen then that impulses—their direction, their strength, how they modify one another—are the essential and fundamental things in any experience. All else, whether intellectual or emotional, arises as a consequence of their activity. The thin trickle of stimulation which comes in through the eye finds an immense hierarchy of systems of tendencies poised in the most delicate stability. It is strong enough and rightly enough directed to disturb some of these without assistance. The literal sense of a word can be grasped, on the prompting of the mere sight of it, without hearing it or mentally pronouncing it. But the effects of this stimulation are immensely increased and widened when it is reinforced by fresh stimulation from tied images, and it is through these that the greater part of the emotional effects are produced. As the agitation proceeds new reinforcement comes with every fresh system which is excited. Thus, the paradoxical fact that so trifling an irritation as the sight of marks on paper is able to arouse the whole energies of the mind becomes explicable.

To turn now to references, the only mental happenings which are as closely connected with visual words as their tied images are those mysterious events which are usually called thoughts. The mere sight of any familiar word is normally followed by a thought of whatever the word may stand for. This thought is sometimes said to be the 'meaning,' the literal or prose 'meaning' of the word. It is wise, however, to avoid the use of 'meaning' as a symbol altogether. The terms 'thought' and 'idea' are less subtle in their ambiguities, and when defined may perhaps be used without confusion.

What is essential in thought is its direction or reference to things. What is this direction or reference? How does a thought come to be 'of' one thing rather than another? What is the link between a thought and what it is 'of'? These are the questions to which we must now outline an answer. Without a fairly clear, although, of course, incomplete view, it is impossible to avoid confusion and obscurity in discussing such topics as truth in art, the intellect-*versus*-emotion imbroglio, the scope of science and many others with which criticism must deal.

The facts upon which speculations as to the relations between thoughts and the things which they are 'of' have been based, have as a rule been taken from introspection. But the facts which introspection yields are notoriously uncertain, and the special position of the observer may well preclude success. Introspection is competent, in some cases, to discover the relations between

events which take place within the mind, but cannot by itself give information as to the relations of these events with the external world, and it is precisely this which we are inquiring into when we ask, What connection is there between a thought and that which it is a thought of? For an answer to this question we must look further.

The only indubitable relations which events in the mind have to events outside it are causal. Sometimes these relations are simple. The striking of a clock is the cause of our thinking of its striking. In such a case the external thing is linked with the thought 'of' it in a fairly direct fashion, and the view here taken is that to be a thought 'of' the striking is to be merely a thought caused in this fashion by the striking. A thought of the striking is nothing else and nothing more than a thought caused by it.

But most thoughts are 'of' things which are not present and not producing direct effects in the mind. This is so when we read. What is directly affecting the mind is words on paper, but the thoughts aroused are not thoughts 'of' the words, but of other things which the words stand for. How, then, can a causal theory of thinking explain the relation between these remote things and the thoughts which are 'of' them? To answer this we must look at the way in which we learn what words stand for. Without a process of learning we should only think of the words.

The process of learning words directly is not difficult to analyse. On a number of occasions the word is heard in connection with objects of a certain kind. Later the word is heard in the absence of any such object. In accordance with almost the only fundamental law known about mental process, something then happens in the mind which is like what would happen if an object were actually present and engaging the attention. The word has become a sign of an object of that kind. The word which formerly was a part of the cause of a certain effect in the mind is now followed by a similar effect in the absence of the rest of the previous cause, namely, an object of the kind in question. This kind of causation appears to be peculiar to living tissue. The relation now between the thought and what it is 'of' is more indirect, the thought is 'of' something which formerly was part cause, together with the sign, of similar thoughts. It is 'of' the missing part of the sign, or more strictly 'of' anything which would complete the sign as a cause.

Thoughts by this account are general, they are of anything *like* such and such things, except when the object thought of and the thought are connected by direct causal relations, as, for instance, when we think of a word we are hearing. Only when these direct

relations hold can we succeed in thinking simply of 'That.' We have to think instead of 'something of a kind.' By various means, however, we can contrive that there shall only be one thing of the kind, and so the need for particularity in our thoughts is satisfied. The commonest way in which we do this is by thoughts which make the kind spatial and temporal. A thought of 'mosquito' becomes a thought of 'mosquito there now' by combining a thought of 'thing of mosquito kind' with a thought of 'thing of there kind' and a thought of 'thing of now kind.' The awkwardness of these phrases, it may be mentioned, is irrelevant. Combined thoughts of this sort, we may notice, are capable of truth and falsity, whereas a simple thought—of 'whatever is now' for instance—can only be true. Whether a thought is true or false depends simply upon whether there is anything of the kind referred to, and there must be something now. It is by no means certain that there must be anything there always. And most probably no mosquito is where we thought it was then.

The natural generality and vagueness of all reference which is not made specific by the aid of space and time is of great importance for the understanding of the senses in which poetry may be said to be true. A topic too large to be entered upon here.

In the reading of poetry, the thought due simply to the words, their *sense* it may be called, comes first; but other thoughts are not of less importance. These may be due to the auditory verbal imagery, and we have onomatopœia, but this is rarely independent of the sense. More important are the further thoughts caused by the sense, the network of interpretation and conjecture which arises therefrom, with its opportunities for aberrations and misunderstanding. Poems, however, differ fundamentally in the extent to which such further interpretation is necessary. The mere sense without any further reflection is very often sufficient thought, in Swinburne, for instance, for the full reaction :—

> "There glowing ghosts of flowers
> Draw down, draw nigh;
> And wings of swift spent hours
> Take flight and fly;
> She sees by formless gleams
> She hears across cold streams
> Dead mouths of many dreams that sing and sigh."

Here little beyond vague thoughts of the things the words stand for are required. They do not have to be brought into intelligible connection with one another. On the other hand, Hardy would rarely reach his full effect through sound and sense alone :—

" ' Who's in the next room ?—who ?
I seemed to see
Somebody in the dawning passing through,
Unknown to me.'
' Nay : you saw nought. He passed invisibly.' "

Plays, as a rule, require interpretation and conjecture more than novels.

It is difficult to represent diagrammatically what takes place in thought in any satisfactory fashion. The stimulus coming in from the visual sensation of the printed word must be imagined as reaching some point in the brain at which effects take place not due merely to this present stimulus, but also to past occasions in which it has been accompanied by other stimulations. These effects are thoughts ;[1] and they in their groupings act as signs for yet other thoughts. The little arrows are intended to symbolise these references to things outside the mind.

5. Emotions.

Feeling or emotion is not, as is often supposed, another and a rival mode of apprehending nature. So far as a feeling or an emotion does refer to anything it refers in the way described, through its mnemonic origins. Feelings, in fact, are commonly signs, and the differences between those who ' see ' things by intuition, or ' feel ' them, and those who reason them out, is chiefly a difference between users of signs and users of symbols. Both signs and symbols are means by which our past experience assists our present responses. The advantages of symbols, due to the ease with which they are controlled and communicated, their public nature, as it were, are obvious. Their disadvantages as compared with such relatively private signs as feelings are perhaps less evident. Words, when used symbolically or scientifically, not figuratively and emotively, are only capable of directing thought to a comparatively few features of the more common situations. Feeling and imagining are more subtle ways of thinking, more dangerous also, because more difficult to corroborate and to control, and more liable to confusion. There is no inherent superiority, however, in feeling as opposed to thought, there is merely a difference in applicability ; nor is there any opposition or clash between them except for those who are mistaken either in their thinking or their feeling, or in both.

[1]The hypothesis of identity between brain and mental occurances here made should not be too hastily described as materialism. It is the writer's contention that the division between mental and material as ordinarily made is due to a defective analysis and owes most of its plausibility to emotive not to scientific considerations.

Every experience has an origin, usually, thanks to the mnemonic property, scattered over time and space ; it has certain intrinsic qualities, what it feels like and is ; and it has results. This division into causes, characteristics and effects of mental occurrences might well take the place of the customary cognition-feeling-conation division. A selection among causes and of effects must of course be made, the same kind of selection by which a coroner attempts to pick out '*the* cause of death,' a matter to which little theoretical difficulty attaches. Reference or 'thought' we have described in terms of origin; the other, the affective-volitional aspects of experience must be described in terms either of intrinsic quality or of results.

In popular parlance the term emotion stands for those happenings in minds which accompany such exhibitions of unusual excitement as weeping, shouting, blushing, trembling and so on. But in the usage of most critics it has taken an extended sense, thereby suffering quite needlessly in its usefulness. For them it stands for any noteworthy 'goings on' in the mind almost regardless of their nature. The true and profound emotions, as spoken of by critics, are often lacking in all the characteristics which govern the more refined linguistic usage of common people and, as it happens, of psychologists also, for what may perhaps be regarded now as the standard usage in psychology sets out from the very same bodily changes accompanying experience as were noted above.

For the psychologist two main features characterise every emotional experience. One of these is a diffused reaction in the organs of the body brought about through the sympathetic systems. The other is a tendency to action of some definite kind or group of kinds. Extensive changes in the visceral and vascular systems commonly take place in response to situations calling one or other of the instincts into play. As a result of all these changes a tide of sensations or internal bodily origin comes into consciousness. It is generally agreed that these sensations make up at least the main part of the peculiar feeling of an emotion. Whether they are necessary to it or not is disputed It may perhaps be suggested that insufficient attention has been paid in the theory of emotion to images of such sensations The fact that fear, for example, may be felt in the absence of any detectable bodily changes of the kind described (a disputed fact) may be explained by supposing images of these sensations to be taking their place

6 Attitudes.

These sensations, or images of them, are then a main ingredient of an emotional experience and account for its peculiar 'colour' or tone, for the voluminous and massiveness as well as for the

extreme acuteness of emotions. But of equal or greater importance are the changes in consciousness due to reactions in the nervous systems which control movement, governing overt muscular response to the stimulating situations. These range, in the case of fear, from the awakening of a simple tendency, an impulse to run away or hide under the table, to such elaborate readjustments as we make when we prepare to counter a threat against some favourite opinion. In the normal adult a process of extraordinary complexity takes place between perceiving the situation and finding a mode of meeting it. This complicated process contributes the rest of its peculiar flavour to an emotional experience. When we realise how many and how different may be the tendencies awakened by a situation, and what scope there is for conflict, suppression and interplay—all contributing something to the feeling we notice—it will not appear surprising that the classification and analysis of attitudes is not yet far advanced. A thousand tendencies to actions, which do not overtly take place may well occur in complicated adjustments. For these what evidence there is must be indirect. In fact, the only attitudes which are capable of clear and explicit analysis are those in which some simple mode of observable behaviour gives the clue to what has been taking place, and even here only a part of the reaction is open to this kind of examination.

Among the experiences which are by the nature of the case hidden from observation are found almost all those with which criticism is concerned. The outward aspect and behaviour of a man reading the Prioresses' Tale or The Miller's Tale may well be indistinguishable. But this should not lead us to overlook how great a part in the whole experience is taken by incipient preparations and tendencies to action. Many experiences which, if examined by introspection for their actual content of sensation and imagery, differ very little, are totally diverse in the kind and degree of implicit activity present. This aspect of experiences as filled with incipient promptings, lightly stimulated tendencies to acts of one kind or another, faint preliminary preparations for doing this or that, has been constantly overlooked in criticism. Yet it is in terms of attitudes, the resolution, inter-inanimation, and balancing of impulses—Aristotle's definition of Tragedy is an instance—that all the most valuable effects of poetry must be described.

Space remains for brief notes upon a few only of the conclusions and recommendations which study of some such outline of the poetic experience suggests.

Although elements of all the kinds mentioned are present in perhaps every poetic experience, their relative importance will vary greatly from poem to poem. Some poets, Cowper at his best, for example, use the plain sense of words as their chief instrument and build up a final attitude mainly out of reader's responses to the things described. Other poets, Blake in 'The Mad Song' is a clear example, employ reference in a relatively subordinate rôle and rely principally upon the direct emotional effects of tied and free imagery or image substitutes. These differences in method do not, however, imply differences in fundamental effect, although they may have that consequence. There is no one, proper, poetical method. Certain marked differences in preferences between critics, those shown, for example, by insistence upon 'Content' rather than 'Form,' or the reverse, the difference perhaps between Matthew Arnold and Pater, are often merely preferences as to method, and have no real bearing upon the values of the poems considered. Any poetic method which leads to valuable effects is permissible, provided ability to respond to it does not imply disability to respond to other methods; a good critic is able to respond to all permissible methods. That commonest critical mistake, the elevation of a method into a value, is the chief obstacle to the required catholicity.

By 'Form' is sometimes meant the character of the entire poetic experience, 'Content' then becomes a negligible matter. Similarly 'Content' is often extended to cover all that occurs in the mind, when 'Form' becomes correspondingly trivial. More usefully, by 'Form' may be meant the elements contained in divisions I. and II. of our analysis, visual sensations and tied imagery, and by 'Content' may be meant the references involved. It is difficult to use these terms so that together they cover the whole experience without gross confusions.

Rhythm and metre are commonly regarded as qualities of the sequence of tied images. The general remarks to which rhythm has given rise form a singularly empty body of speculation, while the more exacting task of tracing its minute particulars has been aggravated by a prolonged and doubtful battle over the notations to be regarded as most convenient for the purpose. As usual, expediences of notation and questions of fact have become woven into an almost inextricable entanglement.

The chief reason for the difficulty in the exploration of rhythm is the complexity and heterogeneity of the elements involved. Rhythm, or at least the poetically interesting thing among the many things called by that name, is no mere matter of the force, length, pace, weight, or what not, of syllables regarded as sensory

sequences. Sequences the same in these respects will have different rhythms as they excite different references, different emotional disturbances and different attitudes. Rhythm, in other words, is less a quality of a line than an effect, and to analyse it we must go much deeper than the ear or the speech organs. It is well known that factors neither auditory nor vocal intervene in metre. The grammatical importance of words, for instance. Nouns, verbs, and adjectives have an increased rhythmical weight as compared with articles, connectives and propositions. Again, *unuttered* emphasis due to meaning, either intellectual or emotional, constantly plays the decisive part. Consider, for instance, dramatic importance, often most powerful when least stressed by the speaker. For these reasons the process of placing small marks of various kinds above or between syllables is not capable of greatly illuminating the topic.

A delicate sense for rhythm is the most important of the natural qualifications of a good reader, whether he reads silently or aloud. What is commonly described as an ' ear ' for verse is a much deeper and wider endowment than any mere acoustic acumen. It is a general capacity for allowing all the varied elements in the poetic experience to take as they arise their due place. But we have seen that this due place is for some of these elements a variable thing, variable without loss. As many readings as readers, and not all the readings which differ from one another are defective. For every poem there are doubtless an indefinitely large number of different readings which equally satisfy the essential condition, that the reader himself attains to the fundamental effects in emotion and attitude wherein the value of the poem lies. Different readers will attain these by different means, which, if they read aloud, will be reflected as differences in tone, in expression, and in rhythm. The fact that Mr. A. and Miss B. read a given poem quite differently need not imply that one or other or both of them are reading it wrongly, so far as their aim is to gain the most valuable experience for themselves.

When, however, their aim is to cause experiences to other people the question becomes more complicated. The first point to be considered is, who are these other people and what is their literary ability ? A group of poets, an average theatre audience, a class of school-children deserve different treatment. The poets, presumably, have enough knowledge of poetry to read silently to themselves in the fashion which gives them greatest value. To such an audience a reader may be content to take the place of the printed page, to supply, that is, in an unobtrusive fashion all that the listener requires from which to produce his own interpretation.

The chief danger would be the importation by the reading of elements extraneous to the poetry. The aim of a reader addressing a poetically sensitive audience should be less to reproduce out loud his own ideal interior reading, with its inevitable idiosyncrasies, than to supply such a stimulus as will allow his hearers to complete to their own satisfaction that work of interior elaboration which he cannot do for them. He should leave it to the poetry and to them. A theatre audience, on the other hand, inert, helpless, liable to be overwhelmed by monotony because it has little power of response in itself, requires assistance. It may even require—from the commercial point of view it does require—the addition of elements extraneous to the poetry, in the form of 'expressive' and violent hints as to how it is to understand the odd stuff to which it is being asked to attend, and stimulants to induce it to continue its attention. There are certain tones of voice which have an immediate effect upon the nervous system quite irrespective of what is being said, and these screams and whispers may be trusted to produce some sort of effect as surely as could a cry of 'fire' in the theatre. The temptation to any competent actor to employ such subsidiary aids must, as audiences are, be very strong. The school class presents a third situation, the most difficult of the three to meet adequately. Here a large proportion of the listeners require, and can receive, assistance in their own private silent reading. For this a model is desirable. It is wise to refrain from the endeavour to correct their internal reading by correcting their reading aloud, since there is no close correspondence between the words they actually utter and the sounds they may imagine themselves to be uttering. The end sought is that a child should learn to read poetry silently in a way which gives him its value, not that he should learn to read it aloud in a way tolerable to his hearers. To the teacher falls the task or privilege of revealing so far as he can the possibilities of ordered words. In this he is perhaps best advised if he takes as his principle that as much as possible should be left to the poet. If he tries to make his reading 'expressive' or dramatic he is more likely to do harm to the cause he has at heart, than if he is content merely to let his pupils see that there are better ways and worse ways of reading. This perception as foundation and opportunity for and encouragement in slow and leisurely silent reading, these are what children most need. In the teaching of poetry a reverent, almost a reticent, attitude is of greater service than even the most genuine enthusiasm and expansiveness.

These recommendations as to reading aloud are unexciting. There are many who believe that by encouraging accomplished reading more people might be led to take a serious interest in poetry.

The attempt is worthy of all encouragement. We must distinguish, however, between this serious interest and the social pleasures. Too often the atmosphere of the recitation or performance, even in its mildest forms, is unfavourable to the full development of the more valuable poetic experiences. A good deal of social psychology has changed since the age of the ballads, and modern man is perhaps tending less and less to seek his finer moments as a member of a group, fortuitously assembled.

THE DREAM OF FRUSTRATED EFFORT.

By JOSHUA C. GREGORY, B.Sc., F.I.C.

One day, in a street of Askalon, a Philistine woman dropped her pitcher. It broke into fragments and she left them lying. Then the centuries covered them with dust and rubble. Some thousands of years after, the explorer's bore pierced down to them. They were carefully uncovered, photographed, labelled and classified in a museum. Triviality depends upon context: the despised pieces of pottery, useless to their owner, helped, in another era, to reconstruct a vanished civilisation.

Dreams may be compared to these potsherds: trivial, or apparently trivial, in themselves, they help us to understand how our minds work. Most dreams resemble such trivial episodes as, with a little excitement instilled, we tell to a child. Even when they are serious moments for the dreamer, as when a tiger chases him, they usually become mere curiosities of the night when he awakes. From time to time specially impressive dreams do, however, strongly induce us to search out their significance. The significance of dreams has, generally speaking, been sought in two directions. In the ancient world they were regarded as portents, as revelations, and usually as privately significant for the dreamer himself. This private significance is the first of the two directions of search. The modern psycho-analytic method of dream-interpretation continues, in a modern form, the ancient application of the dream to the private and peculiar circumstances of the dreamer. The fundamental plan is the same, though for the ancient the dream was a visitor, an entrant from the world into the dreamer's mind, and for the modern it is itself an inhabitant of that mind—simply, to use a convenient metaphor, leaving one room to enter another. Owen Feltham, in the seventeenth century, thought that "Dreams are notable means of discovering our own inclinations." Psycho-analysis has elaborated this hint and accepted his assumption that the natural thoughts of the soul appear before it in sleep. Feltham said these natural thoughts come naked; psycho-analysis says they are clothed in symbolism. With this correction Feltham's doctrine is psycho-analytical doctrine. Psycho-analysis emphasises and explores the self-revelatory function of dreaming; it stresses the private significance of his dreams to the individual dreamer.

The worlds of different dreamers are not entirely separate. Two different families have different lives, but, though their loves and hates are different, they both agree in loving and hating. Different dreamers have different dreams, but fundamental methods or plans run through them all. Two dreamers repress two different desires into the Lethe of the unconscious which are restored to them, perhaps in symbolic guises, during sleep. The psycho-analyst seeks for the two interpretations, each privately significant to one dreamer, through the principles, common to the operations of all minds, that desires are repressed and symbolised in dreaming. The private significances of dreams, which is the first direction of enquiry, thus touch on the general significance of dreaming for the mind as such, which is the second direction. The scattered Philistine potsherd threw a light on the civilisation which produced them; the dreams scattered through mental life throw a light on that mental life which produces them.

We know things or individuals through events: pieces of lead by their pull on the hand, by the marks they make on paper, by the ease with which they melt; beetles by how they behave; men by their behaviour and thought. The more varied the situations in which we observe the actions or behaviour of anything, the more complete our knowledge of that thing or being becomes. Experiment is varying situations to prompt variation of events. Sir Walter Raleigh says Boswell experimented on Johnson by taking him into various companies and asking him strange questions: he endeavoured to know Johnson by varying his situations and thus varying his actions. Often, perhaps most often, we have to be content with observing the results of situations arranged by Nature. St. Augustine described an attempt to test the pretensions of astrology by observing the results of one of Nature's more unique situations. When his friend Firminus was nearing his moment of birth a certain woman-servant was also near her delivery. Messengers waited in either home to receive instant notification of the child's birth, and to set off with instant intelligence. The messengers met "at such an equal distance from either house, that neither of them could make out any difference in the position of the stars, or any other minutest points!" These two children should, on astrological principles, have had like destinies, but Firminus lived a life of honours, and the yoke never relaxed for the slave-born child. It is thus that, by careful, opportunitive observation, we take advantage of Nature's experiments. Now, when we dream, our minds are behaving under certain conditions imposed upon them by sleep. When Nature arranges that we shall sleep she experiments upon the mind, and

dreams are results of these experiments. The significance of dreaming for the student of the mind, *qua* mind, depends upon the variation of behaviour which the situation provided for it by sleep produces.

Causal connections are often, perhaps usually, buried from sight in the complexities of the world. The history of human thought declares, very decidedly, the difficulty of discovering the actual cause of anything in the complicated system of events which precede it. Some primitive agriculturists had a habit of killing a maiden when they sowed their corn, and spreading her flesh and blood over the field. The corn grew, but, fortunately, it has been discovered that the inclusion of a murdered maiden in manure is not necessary. Isolation, cutting out certain previous events to observe whether certain results still occur, is an important method of enquiry. Experiment is often directed at such isolation, at excluding certain possible causes or making sure that certain possible causes are present, to analyse out genuine causal connections. Isolation, whether presented by Nature for observation or experimentally produced, may be regarded as a narrowed situation. Now sleep affects the dreaming mind by narrowing its situation. Hobbes endeavoured to direct thought " in the teaching of natural philosophy " by " feigning the world to be annihilated " for the man who was to receive this teaching by considering the effect on his mind of this annihilation. Sleep cannot annihilate the world but it partially performs Hobbes' feigned experiment by partially severing the connection between the sleeping mind and the world of things. This severance is the essential element in Hobbes' imaginary situation, on which, fortunately even for the most enthusiastic experimenter, he could not confer reality. Hobbes thought " there would remain to that man ideas of the world " and that " all such things, though they be nothing but ideas and phantasms . . . will appear as if they were external. . ." This description describes dreaming, for dreaming may be said to contain " ideas of the world " which present themselves to the dreamer as if they were real things or scenes. Dreaming is thus the mind thinking when it is, in effect, partially expelled from the physical world, and there is some truth in Addison's description of it as " the relaxations and amusements of the soul when disencumbered of her machine." The soul, or mind, is not divorced from the body in sleep or dream as primitive thought supposed, but it is constrained to think as if there had been such a partial divorce. A divorced or discarnate mind would imagine without seeing or hearing or smelling. The dreaming mind is partially, very partially perhaps, but still partially, in the same

situation. The dreamer thinks he is where he is not and appears to witness what does not occur; he substitutes imaginary events and imaginary objects for his real surroundings which he neither sees nor appreciates. The dreaming mind is active in a situation narrowed down from its waking situations by the cutting out of the greater part of those direct experiences of physical things through the senses which are normally present in the latter. The behaviour of the mind in situations where it experiences physical objects can be thus compared with its behaviour when these experiences are absent. Sleep, in short, performs for us an experiment upon the mind in which it partially isolates it from the world, narrows its situation, and constrains it to activity without an important part of the usual influences upon its conscious processes.

This depletion of the dreaming mind by sleep is reflected in a disturbance of the sense of reality. Our sense of reality, reflection soon suggests, is exceedingly complex. In our walks abroad, we not only see and hear and perhaps smell, but experience a mass of sensations which must be counted into our sense of reality though a reflective effort may be required to realise its importance. Slight differences of temperature, for example, as we pass from shade to shine or from calm to breeze, may pass unheeded though they help to make things real. Sometimes, of course, we realise the change with a shiver or with a feeling of heat. More important are the innumerable sensations we constantly receive from all parts of our body whether we rest or move, our sensations from the contact between clothes and body, our sensations of posture both from contacts with objects, as in leaning against a wall or sitting on a chair, and from the arrangement of our limbs and also those sensations which we receive, during movement, from contacts of our feet or hands or other members with objects, and from the joints, muscles, tendons, and other parts as they move. These sensations, which a little reflection assures us must be very numerous, are important contributors to our sense of reality though we do not attend to them as we attend to the shapes and colours that we see. Our field of vision shades off from the focus where we see clearly and distinctly to a margin where we see so dimly as scarcely to see at all. The mass of sensations, incompletely itemised above, is normally in the margin of our total field of consciousness. Sometimes a stumble, by drawing attention to sensations of touch in the soles of our feet, reminds us that these sensations are there. When our foot and leg "go to sleep," and we stumble as we rise, we realise that our walking is constantly controlled and directed by sensations aroused in these members by contacts. The mass

of marginal sensation stimulated in our body by the activity of its organs, by its posture and by its movements, contributes greatly to impress upon us the reality of things. In our physically active life our continual movements are continuously recorded in the margin of consciousness by the sensations they incite. This marginal record is not entirely omitted during quiet observation. Slighter bodily movements, eye movements or limb or trunk movements, which may be virtually imperceptible, are recorded by marginal sensations and incorporated in our sense of reality.

If this marginal mass of sensation could be cut out we should expect to confirm these conclusions by experiencing a decrease or a disappearance of our sense of reality. Bertrand Russell remarks that in certain moods an irresistible belief in the unreality of the world of sense arises in us: most people, probably, have felt, if only for a moment, as if the world had dissolved into a phantasmagoria. The "simple physiological basis" which he surmises for such "powerfully persuasive" experiences may be the disappearance, partial or complete, of this marginal mass of sensation. When we imagine things we do not *act* towards them as if they were real, and our habitual distinction between the imaginary and the real may depend in part upon the absence from the one of sensations stimulated by bodily activity and their presence in the other. It is possible that in moments of mental absorption, when the marginal sensations from active participation in the world are at a minimum, a sense of unreality may rush in upon us, because we are thinking without acting, and the real world normally requires from us both thought and action. If, as Sidis asserts, the sensori-motor life gives reality to the world of objects, if our movements give us the essence of the real, external, material world by the characteristic sensations they arouse in us, moments of purely mental activity should tend, by depleting consciousness of this marginal mass of sensation, to rush a sense of unreality in upon the mind.

Whether this depletion be a cause of the mystical moments noted by Bertrand Russell or not, it appears to operate in dreaming and disturb the dreamer's sense of reality. Usually the dreamer is motionless when, if the scenes were real, he would, in waking life, be moving. He believes, in most dreams, that he sees real things and witnesses real scenes. In this respect his sense of reality is heightened for he thinks imaginary things are real. In waking life a succession of scenes means that the observer moves, and his sensations of movement confirm his sense of reality. In dreaming he seems to move but does not *feel* his movements because they do not really occur. He should, therefore, so, at any rate, it would

seem, experience a sense of unreality. Coleridge suggested that dreams are not so much regarded as real as not regarded as unreal. He was impressed by the inferior grip of the dream upon the mind in comparison with waking experiences. Men have never been driven insane, he argued, by the most terrible nightmares; they have been terrified into madness by mischievously made ghosts. The inferior grip of the dream is evident in the readiness with which it is usually forgotten. Now it seems clear that dreams are usually regarded as real, but they also, in most cases, seem to be pervaded by a dim sense of unreality. There is a subdued weirdness, an absence of full-bloodedness, a ghostly diaphaneity which corresponds to the depletion of consciousness through the absence of sensations of moving activity. In waking life seeing and acting combine to establish a sense of reality; in dreaming the divorce of action from seeing partially devitalises the experience, and the sense of reality wanes.

The dreamer is usually too convinced that he sees things for his sense of reality to vanish. Sensations of movement which should be present are not there, but his visions, which insist that things are present, overpower the absence of sensations which denies them. The conflict between the affirmation by imaginative vision and the denial by the depleted conscious margin usually results in a mere diminution of the sense of reality. The issue of the conflict might, on occasion, be in favour of the denial entered by the absence of sensations of movement. In waking life, when a man raises his arm to lift a cup to his mouth he is assured that he is doing what he seems to do by sensations in his moving arm, by the touch of his hand on the cup, and, finally, by a contact with his lips. When he dreams he seems, so far as sight can assure him, to be drinking, but his arm does not move, he feels no cup and his lips receive no touch. His dream reduces him, more or less completely, to the condition of a drinker whose nerves are suddenly cut so that he can feel neither his arm move nor his hand clutch, nor his lips touch. Such a man, seeing himself trying to drink and unable to feel his actions, would be seriously disturbed in his sense of the reality of the event. He would appear to be drinking and feel as if he were not: his sense of reality would begin to slip through him. Now in dreams of frustrated effort there may be this more serious disturbance of the sense of reality. In these dreams the dreamer appears to be doing certain things, but he feels, because the characteristic sensations of movement are absent, as if he were not doing them. This conflict between affirmation and denial results in a conviction that his attempts are failures—combining, in this way, the assurance of his dream visions that he is performing

and his assurance, through the absence of appropriate sensations of movement, that he is not performing.

When Achilles chased Hector round the walls of Troy, until Athene intervened, he failed to overtake him. Homer compares the chase to a dream in which the pursuer fails in the chase of a fleeing man. The dream of frustrated effort is thus recognised in the great Greek epic. Jebb notes that Homer usually searches the outer world for his similes and very seldom takes them from the inner world of mental experience. When he does use subjective imagery he has probably been impressed by the mental experience he employs, as when he compares Hera's flight to the rapid rush of thought in the mind of a travelled man when his recollection has been touched, and he had probably been impressed by the dream of frustrated effort. This type of dream, in which the dreamer fails to do something he is trying to do, occurs fairly frequently. Hutchinson, from replies to a questionnaire on dreaming, concluded that the dream of "trivial inconvenience" is a definitely marked type of dream. The examples cited under this heading are principally frustrated efforts. Dreams of travel, Hutchinson found, are fairly frequent and usually contain failures: missed trains, for example, and portmanteaux that will not pack constantly recur in them. In "bogey dreams" the dreamer is often pursued by a monster from which he cannot fly. Hutchinson specifies this class of dream as a well marked type, so that Christian in the Slough of Despond is modelled on a characteristic dream-situation. In the minor dreams of frustrated effort a clergyman in the pulpit cannot find place in his manuscript, the night-farer cannot find his latch-key or turn it in the lock, the professor cannot find the door of his laboratory, the analyst cannot perform his test and the crack cricketer is bowled for a duck. The failures in dreams of frustrated effort are often where the dreamer, in waking life, is most expert, and there seems to be a definite dream of "professional failure" in which the dreamer fails to do what he most habitually and competently performs. The Greek warrior's failure in pursuit, since his occupation was war, would be his dream of professional failure.

Walsh includes among typical dreams missing trains and various difficulties. Freud classes the missed train as a typical dream and explains it as a consolation dream against the fear of death. Walsh probably simply repeats Freud's statement, but missing trains is patently a fairly common experience in dreaming. Freud also specifies "failure to accomplish" among the contents of dreams and apparently recognises frustrated effort as one characteristic of dreaming. By suggesting that failure to accomplish may

express a contradiction or "no" in the dramatic and symbolic manner of dream-expression he certainly seems to adopt frustrated effort as a specific element of dream-life.

It should occur with a frequency sufficient to give it typical status in dreaming if it expresses, in a specially forcible way, the disturbance of the sense of reality produced by the absence of sensations derived from absence of bodily movement. Dreams of missing trains, which constantly recur in dreams of frustrated effort, obviously invite this kind of explanation. Running for a train is, in real life, a very real experience, and its reality roughly divides into the sight of the train or the sound of its whistle, occupying the centre of the runner's consciousness, and the mass of marginal sensations, very imperfectly perceived, though effectively assisting to confirm the reality of the whole experience, received from his moving limbs and from his contacts, especially foot contacts, with objects. The sense of resistance, which is probably an important and even fundamental item in our estimate of the physical world's reality, is constantly present as the runner's feet touch the ground. In the dream the dreamer is assured by seeing the train or hearing its whistle that it is there and the vigour of his vision, which is the predominant element in dreaming, assures him that he is trying to catch it. Desire to catch it, which arises naturally in his dream because it is so usual in real life, perhaps confirms his illusion. But he does not really run : his reposing limbs, by sending no sensations of movement, affirm that he does not run ; his feet do not strike the ground and confirm the incident's reality by meeting the resistance they meet in real life. The dreamer is torn by two opposite assurances : that he is catching a train and that he is not. In most dreams his sense of reality is simply, and perhaps very slightly, devitalised ; in the train-missing dream he combines his assurances for and against the incident's reality in a belief that he is trying and failing. His disturbed sense of reality, insufficient to convince him that his dream is unreal, expresses his sense of unreality, prompted by the absence of appropriate sensations of movement, as a sense of failure.

Sometimes the dreamer realises he is dreaming. This may denote a victory for the assurance of unreality—the dream of frustrated effort being a compromise between the belief in the reality affirmed by the dream visions and belief in the unreality affirmed by the absence of appropriate sensations of movement. The train-catching dreamer thinks he is catching a train because he sees it and he thinks he is not because he does not feel himself moving. He compromises by supposing that he is trying and failing. He may, on occasion, refuse to believe his eyes, prefer the denial given by

the absence of appropriate sensations of movement and conclude, rightly, that his dream is a dream. The recognition by a dreamer that he is dreaming probably depends also upon other factors, but it is quite reasonable to suppose that a paring down of the sense of reality by a depletion of the marginal sensational mass in the field of consciousness is partly responsible.

Sleep then, if these conclusions be correct, experiments upon the mind by partially cutting its contact with the world. The dreams resulting from this experiment throw light on the mind's sense of reality because some of the elements on which it depends are cut out and the mind's behaviour then intimates the importance and significance of these elements. Roughly speaking, and with qualifications to be mentioned later, the sense of reality in the presence of physical things is divisible into two parts. It consists of sensations received from things, sight, sounds, smells and the like which are localised in external objects and of sensations in our bodies. It is sufficient at present to consider sensations of sight, which predominate in dreaming, and sensations of movement which, when there is no somnambulism, are presumably absent. Modern thought lays stress on the latter, as when Bergson identifies reality with our consciousness of actual movements whereby our organism responds to its surroundings. Hobbes probably did not realise that the destruction of the world would throw consciousness into chaos by depriving it of its characteristic sensations of movement. The sense of resistance should be included in the important sensations for the estimation of reality. In normal active life sensations of movement combine with sensations of sight to confirm the sense of reality: we see the train and feel ourselves moving towards it. In ordinary dreaming we see things with enough imaginative vigour to convince us they are there. But we do not move and a suspicion tends to infuse a dim sense of unreality into our dreaming. The absence of sensations of movement may be unheeded because the dream is otherwise dramatic or vigorous or because it is relatively unimportant. Often, however, this absence results in a diaphaneity, in a thinness, in a weird hinting at unreality. Experience seems to suggest that the reality of our dreams is often thinned and reflection suggests that they are thinned by the absence of appropriate sensations of movement or resistance. When the dreamer knows he is dreaming this thinning has dissipated the sense of reality and he ceases to mistake imaginations for realities. Such dissipation is probably favoured by other circumstances which assist the absence of sensations derived from movement to assure the dreamer of his dream's unreality. When a dream recurs, for example, the memory

of the former dream may help the dreamer to decide that the later dream is unreal. The dream of frustrated effort is intermediate between the dream with a thinned reality and the dream which is recognised as such. Vision assures the dreamer of reality, absence of appropriate sensations of movement or resistance assure him of unreality. He seems to race for the train and he feels that he does not. He compromises; he accepts, as compatibly as he can, both assurances and supposes himself to fail in his efforts. Such, it is here suggested, in outline, is the psychological mechanism of the dream of frustrated effort. It is the mind thinking when it is, in effect, partially exiled from the physical world.

The sense of reality is less dim, the experience of frustration less frequent, and the realisation that dreams are dreams less prevalent than the withdrawal of the dreamer from the activities of life might, on the above explanation, lead us to expect. The sense of reality has been connected with a combination of intellectual and active life with a combination of perceptions or knowledge, as when we see objects, and of sensations derived from our activities, as when we feel our contacts with objects. Dreaming disturbs the sense of reality, so it is suggested, by suppressing more or less effectively, the contributions to it of active life. This suppression seems to act less effectively than it should. James connected our sense of reality with our active and emotional life and the importance of this third factor, emotion, may partly resolve this difficulty. When a white rag caught in a tree is mistaken, on a dark night, for a ghost, fear makes the ghost real for the deluded person. The emotions aroused in us by the incidents of life help to make these incidents real and the emotions in dreams may largely compensate for the withdrawal of the dreamer from life's activities. Dreams of being imperfectly clothed constitute one marked, definite type of dreaming. One dreamer dreamed he was at a garden party in his night-shirt, and he was horrified when he was led to his hostess. The absence of sensations of movement did not compel him to think that he was unable to walk into such publicity—an idea that might have been a welcome relief. His horror, by confirming the reality of his dream, might compensate for the absence of sensations of his own activities. This confirmation of the reality of the dream by intense horror in spite of the absence of such sensations is perhaps apparent in dreams where the victim is too paralysed to escape from danger. The inability to flee, characteristic of many nightmares or "bogey dreams," is probably simply the direct rendering in the dream of the dreamer's actual lack of movement. He seems to be fleeing and does not: he dreams that he cannot move. The element of frustrated effort is present, but the whole dream is

relieved from the confusion which often attends the dream of frustrated effort and maintained as a terribly real, distinctly conceived event by the terror it arouses. The emotional shock of failure may often keep the dreamer convinced of the reality of his dream and prevent him from realising, through the absence of sensations of movement, that his dream is unreal. Emotion is often exaggerated in dreaming, as many observers have noted, and this may be an important reason for the frequent failure of the absence of sensations connected with activity either to persuade the dreamer that his dream is unreal or to force him to that compromise between his sense of reality and his sense of unreality which appears as a dream of frustrated effort.

Memory, as well as emotion, may supplement the sense of reality which is thinned by the absence of sensations derived from movement. If memory can make the dreamer think he is seeing by providing a mental picture of a train it may make him think he is running for it by providing memories of appropriate movements. When Professor Titchener thinks of modesty he receives a " visual hint " of this quality through the visual image of a graceful, bending female figure. His thinking is full of such " visual hints " which, if expressed in words, would be called metaphors. Now there are images, memories, of movement sensations as there are visual images or memories of colours and shapes. At least one " trained psychologist " uses a kinaesthetic image (as the psychologist calls an image or memory of a sensation of movement) where Titchener uses a visual image. When Titchener thinks of " meaning " his mind hints at it visually through " a sort of scoop " ; this " trained psychologist " thinks of " meaning " by feeling as if he were raising his right hand and arm to open a closed box : he uses a kinaesthetic image of this movement. If the latter dreamed of opening a box he would probably feel as if he were opening it and have no dream of frustrated effort. If dreams of frustrated effort ever express the absence of kinaesthetic sensations (sensations derived from movement) they will probably be most frequent with people whose kinaesthetic imagery is weak. If visual imagery can be an adequate dream-proxy for seen things, kinaesthetic imagery, memories of movement sensations, may be an adequate dream-proxy for real movements : if a dreamer can mistake a visual image of a tree for a real tree, he may mistake memories of his sensations of movement when climbing it for an actual climbing. One circumstance, however, may prevent a dreamer's kinaesthetic images from convincing him that he is really moving.

James noted the " anticipatory image of the sensorial consequences of a movement " which precedes, for example, the endeavour

to lift a box, and may regulate the first effort, based on an estimate of effort required, which is made. We judge that the box is light or heavy and proportion our first effort to the sensations of muscular strain and the like which we expect to receive. Kinaesthetic images thus provide kinaesthetic forecasts of our movements and are at the service of expectancy. The sensations themselves serve fulfilment and announce the occurence of movement which was anticipated by their images. Titchener noted in himself a tendency to "guide by kineaesthesis, the anticipatory feel of the movements of articulation." If kinaesthetic images are firmly fixed in a forecasting rôle they may become incapable of reproduction in memory as illusory confirmations of movements which do not really happen. Forecasts can be made through visual images—we can imaginatively see in advance what we intend to see. The illusion of the dream, which normally is predominantly visual, proves that visual images can illusorily confirm as real what they can also forecast as likely to become real. Analogy suggests that a dreamer can convince himself of his own movements by remembering or reproducing sensations which would occur if he did move. It is perhaps because he can do this that all dreaming is not frustrated effort. Frustrated effort, however, probably does occur because kinaesthetic images are less easily attained than visual images: the dreamer can more readily delude himself that he sees things than that he feels his movements among them. Also, if kinaesthetic images, as above suggested, are relatively fixed in a forecasting rôle, this fixity favours dreams of frustrated effort because movements must usually be announced by actual sensations and cannot be so successfully announced by their mere images. Vigour of visual imagination and emotional warmth, as likewise previously suggested, may also often prevent kinaesthetic depletion from developing a hint at unreality into a sense of frustration or into a realisation that dreaming is only dreaming.

Kinaesthetically prompted illusions are not impossible: Wundt remarks on illusions which result when muscles are unable to contract and reproduced muscle-sensations accompany the volition. Also movements by the dreamer which are too slight to produce perceptible somnambulism may provide kinaesthetic hints which are absorbed into the illusion of the dream. Two circumstances, however, suggest that the dreamer is less able to give kinaesthetic than visual verisimilitude to his dream. Since kinaesthetic sensations keep more to the margin of the conscious field and are less obtrusive in consciousness than visual sensations, they are more likely to drop entirely out of consciousness and to be more difficult to revive as images. If the dreamer's kinaesthetic images are

relatively much more depressed than his visual images there is still a justification for the previous exposition of the mechanism of the dream of frustrated effort. Also our kinaesthetic sensations seem to direct the final adjustment of our actions. The eyes direct the key into the lock, but muscular and other sensations of movement announce a successful unlocking. To avoid mistakes or illusions kinaesthetic images should be adequately separated from kinaesthetic sensations. This separation may be operated by confining kinaesthetic images to kinaesthetic provision and by making them relatively difficult to attain. The dream of frustrated effort suggests, if it does not prove, that a relative inability to reproduce kinaesthetic sensations or a relative inability to pervert their prophetic rôle into an illusory confirmation of non-existent movements is often laid bare during the passage of a dream. There are analogies in pathology: Warren remarks, in his "Human Psychology," that "In certain pathological conditions the kinaesthetic sensations are cut off. The patient reports that the world which he sees does not look real."

The SIGNIFICANCE of the dream of frustrated effort is distinguishable from its MECHANISM. A missed train may be, as Freud suggests, a consolation dream against the fear of death, and the dreamer may, as Freud also suggests, express a "no" by convincing himself that an effort has failed. The object involved in the dreamer's failure may be, as Walsh remarks, a symbol for something else. These suggestions, and others, may be true of many dreams of frustrated effort without any prejudice to the foregoing explanation of their mechanism. The dreamer may attain his sense of frustration through the absence of appropriate sensations of movement and express through his sense of frustration, thus attained, in the indirect, symbolic manner of the dream, very various significances.

WELTSCHMERZ AND THE ORIGINS OF PESSIMISM

By WILLIAM ROSE, M.A., Ph.D.

Lecturer at King's College, University of London.

In order to offer a definition which shall embrace the various aspects of Weltschmerz, it is only possible to couch it in general terms. It will then be necessary to see what kind of temperament fosters Weltschmerz, what are its symptoms, and to what spiritual and material consequences it is likely to lead.

Weltschmerz is the psychic state which ensues when there is a sharp contrast between a man's ideals and his material environment, and his temperament is such as to eliminate the possibility of any sort of reconciliation between the two. The result is a nostalgia or a yearning for the unattainable, whether the latter be symbolised by a person, a country, or a golden age, any of which may or may not exist wholly in the imagination. This definition might, of course, be extended to embrace the dissonance between the ideal and the actual, which must necessarily exist in the soul of every artist, whether creative or merely receptive, but it must be limited to those in whom the symptoms of psychic disturbance assume a pathological form. It will be obvious that the man who is able to give concrete expression to his longings, or, if these be unattainable, to give them artistic expression, will be less likely to permit his spiritual conflict to obtrude itself unduly into practical life, than the man who is sensitive to outward impressions without possessing the power to return them in the shape of artistic production. Great poets like Goethe and Schiller were able to conquer the Weltschmerz which showed itself in their youthful works, when lesser talents succumbed. The lack of creative power causes the repression of longings which are apt to find their way back in a distorted or exaggerated form, and it is therefore in the minor writers, or in the youth of great ones, that Weltschmerz will as a rule be found. When the mind does not find in itself the power to direct outwards its energies and plastic powers, it sinks back into itself and concentrates on its own *ego*.

The right understanding of Weltschmerz has hitherto been obscured by two fallacies. The first confuses it with pessimism, and this conception makes the vital mistake of looking upon

266553

Weltschmerz as a philosophy, whereas its essence lies in its lack of systematic reasoning. Pessimism is the consequence of a firm conviction that the universe contains more evil than good, and it is a definite outlook on life, but Weltschmerz is not a Weltanschauung. It is a state of mind which does not philosophise but usually contents itself with dreams and complaints. The mind of the Weltschmerzler may be tinged with pessimism, or it may be wholly optimistic, and though Weltschmerz leads in some cases to the doctrine of Nirvana, it has by then ceased to be merely a psychic state. A philosophic pessimism precludes the manifestation of most of the symptoms which we find in the case of the Weltschmerzler, who ceases to be such after he has succeeded in carving his way through to a definite philosophy of life.

The second fallacy is that the Weltschmerzler *always* regards his own woes as typical of those of the whole world. That is not essential.

The only definition of Weltschmerz which has much value to-day is that of W. A. Braun,[1] who distinguishes two types, the *cosmic* and the *egoistic*. He defines the former as seeing first and foremost the sad fate of humanity, and regarding its own misfortunes merely as part of the common destiny, whereas the latter is chiefly aware of its own misery, and finally comes to regard it as representative of universal evil. In the 18th century, however, the former was non-existent, and as far as the second phase is concerned, there are only rare traces of the Weltschmerzler coming to regard himself as one of a multitude. On the contrary, it is typical of him that he is the supreme egoist, and looks upon himself either as an unique phenomenon, or as one of a select group of supermen. The Weltschmerz of the 18th century was individual, and, with one or two exceptions, remained individual.

The word " Weltschmerz " is, in fact, unsuitable as a description of the spiritual condition of these people, except in so far as it represents the condition of a soul which is out of touch with the world, and it would be more to the point to employ the term "*Ichschmerz*," which would describe the state of an ego that is unable to adapt itself to reality. There can be something sublime in this ego-loneliness, which in its highest moments rises to Promethean defiance, but in the majority of cases it emerges into the individual's practical life, manifesting itself in all his actions, and it is then that the pathological aspect of Weltschmerz becomes acute.

---

[1] In the excellent introduction to his book " Types of Weltschmerz in German Poetry " (Columbia Univ. Germanic Studies, Vol. 2, No. 2, 190?), which deals chiefly with the 19th Century.

The temperament of the Weltschmerzler is essentially passive, though there is often a restless activity which appears to be the outcome of a consuming ambition. This apparent activity, however, is a delusion, for the Weltschmerzler never has a clear perception of any definite goal, and his restlessness is therefore futile. The power to fulfil is never equal to the desire, and the desire itself is usually so vague as to consist merely of an uncertain longing. It is impossible to find concrete satisfaction for desires that are themselves not concrete, and the Weltschmerzler therefore seeks compensation in an imaginary world where he can yield himself to his emotions, and beneath an apparent external ferment of restlessness, the dreamer sinks back into an inertia where melancholy becomes a source of pleasure. When introspection is pursued to this extent the whole mood becomes morbid. So long, however, as the longing remains indefinite, there will be no dangerous consequences. The danger is not precipitated until the vague yearning becomes focussed on some object which is unattainable, and becomes converted into a craving. When this object is a member of the opposite sex, and such is usually the case, Weltschmerz finds its outlet through the erotic channel, and it is usually in the sexual sphere that its most pernicious effects become apparent.

This erotic significance cannot be overestimated, as not only is Weltschmerz always present during the years of puberty, when the psychic life is being revolutionised by the awakening of the sex impulse, but experience also shows that it is the erotic side of one's nature which usually offers the line of least resistance to the practical expression of Weltschmerz. It is well known that erotic emotion is an indispensable factor in the development of the "artistic mood," and as the latter seeks in the imagination the satisfaction which is lacking in reality, so does the Weltschmerzler, who possesses the artistic temperament in a high degree, tend to live more or less completely in an unreal world of his own design. He loses contact with his environment, and exists in a fantastic world. The consequence is that he does not so much want the object on which his desires appear to be centred, as the half-pleasant, half-painful emotions which the state of longing engenders.

But when an external, *attainable* object is found, which contains in itself the satisfaction of all longings, the necessary contact with reality is secured. The Weltschmerzler is continually seeking to reconcile poetry and life, and until he does so he must remain subject to Weltschmerz. The relationship between poetry and life, and the striving to reconcile the two, is an essential element in literature ; and when this reconciliation cannot be attained, then

more or less apparent symptoms of Weltschmerz will always be found.

. . . . . .

Weltschmerz is nothing new. In the Bible King Solomon complains of the vanity of human life. The religion of Buddha yearns for a condition in which personal consciousness shall be dissolved in the general world-soul. The Buddhist seeks *Nirvana*, the cessation of individual existence. That seems to be more pessimism than Weltschmerz, though the Buddhists state that they *hope* for Nirvana, and therefore their philosophy is not pessimistic; but one yet sees the striving of the soul to escape from the trammels of the earth which cannot satisfy it. There has always been Weltschmerz in poetry, because it is an indispensable factor in all tragic art, but it is only in comparatively recent times that a definite Weltschmerz literature has sprung up. It became epidemic when men lost perspective, and the psychological conflict itself became the central theme of interest. That happened in the 18th century, and it was in Germany that the full force of the new tendency was first experienced.

The first decades of the 19th century have generally been regarded as the period when Weltschmerz was most prevalent. "Byronism" in England and "le mal du siècle" in France were kindred phenomena, and their immediate cause was the disappointment engendered by the failure of the French Revolution to create the new world which had been expected. The actual roots, however, of the Weltschmerz which we find in Byron, in de Musset, or in Heine, lie deeper, and must be sought earlier in the previous century.

Germany is the only country in Europe whose golden age of literature occurred in the 18th century, and it was there also that the ideals of the French Revolution were fought for in the field of letters, long before the political explosion in France. As befitted a race of poets and thinkers, Germany's revolution was a battle of the books, which took place in the 70's of the 18th century, in the literary movement known as Sturm und Drang, or Storm and Stress, and it is significant that Germany's literary development towards the great outburst of Romanticism at the end of the century which fertilised both the French and English Romantic periods, was not, as one would have expected, through the two great classical writers who overshadow the period, namely, Goethe and Schiller, but through the literary undercurrents and the minor writers, among whom we find most traces of the unsolved conflict of Weltschmerz. There was as much of the latter in the last quarter of the 18th century as there was in the first quarter of the

19th ; but with a difference. In the earlier Weltschmerz can be heard the first stirrings of a new world, to be built up on the ruins of the old ; in the post-Revolution Weltschmerz is echoed despair at seeing those hopes dashed to the ground and things left as they were, so that the world of reality and the longings of humanity were after all not brought into harmony with each other. In the place of discontent *before* the Catastrophe came despair *after* the Catastrophe. The first Weltschmerzler were young men who did not know the world, and expected great things of it, but Byron, Heine and de Musset had taken what life offered and found its fruits bitter. The Weltschmerz of the latter was a development of the earlier type, but received a pessimistic tinge through the failure of the French Revolution. In the 18th century it was only their own egos that they saw, and their own sorrows with which they felt sympathy ; in the 19th century they looked upon their own sorrows as typical of the fate of humanity in general. The purely egoistic Weltschmerz became universal, or cosmic.

The first hints of the coming change appeared in England, whence numerous influences spread to France and Germany to add fuel to the flames of revolt that were about to flare up there. The most important factors were the freedom from classical tradition in the plays of Shakespeare, the nature cult of James Thomson's "Seasons," the melancholy poetry of Ed. Young's "Night Thoughts," the sentimental novels of Richardson, Fielding and Sterne, and the misty, northern atmosphere of Ossian. From France came the most important influence of all—the nature philosophy of Rousseau.

Although all these influences came from abroad, they did not find German ground unprepared. The middle classes of Germany lacked all opportunity of finding an outlet in public life for their intellectual activities. These were necessarily restricted to the purely theoretical plane, and this repression was bound to cause any exaggeration of the imaginative faculty to tend to morbidity. With the awakening of individualism came the realisation of the incompatibility of the existing wretched political state with ideals of a high order, and they sought to realise in imagination the ideal conditions which were lacking in real life. There was a longing for natural conditions and a golden age. The world was measured by the ideals of the individual and condemned, but as there were no practical means of expression for this restlessness, the mind soon became concentrated on the mood which resulted from the contemplation of the incompatibility. It sank deeper and deeper into its own dissonance. Dreams and wishes, which could not be changed into acts of will, led to morbid introspection and apotheosis

of the emotions. The emotions were allowed to prevail over the reason, and imagination provided a substitute for reality. In the 70's of the 18th century this psychic state expressed itself in literature in two main ways, in two main attitudes to life, both of which were sometimes incorporated in the same individual. On the one hand a spirit of titanic revolt, on the other an atmosphere of renunciation and laments.

The birth of the new age was thus announced by a general psychic unrest, by a longing which was later to turn to despair. We notice this in the youthful works of Goethe and Schiller as well as in the literary productions of numerous minor writers. It has often been said that Goethe's famous novel, *The Sorrows of Young Werther*, closed the period of sentimentality, but that is quite erroneous. In "Werther" is mirrored the psychic state of the whole generation, which had already recognised its reflection in Shakespeare's *Hamlet*, but Goethe's novel gave to the cult of sentimentality and melancholy a new and powerful impulse.

. . . . . .

Let us glance at this novel, which was written and published in the year 1774. Napoleon carried a copy with him on his Egyptian campaign and admitted having read it through seven times. It was translated immediately into every European language, and imitated, dramatized, and even parodied innumerable times. The story is simple and there is but little action. Werther is a simple, unambitious youth, who is contented with the inactive life he is leading in the country when the story opens. Then one day he meets Lotte, for whom he conceives a deep passion, and only when her lover, Albert, returns, does he begin to realise that she is beyond his reach. From now on his condition of morbid despair grows more and more intense, until he goes away to a diplomatic post, where he hopes to forget. A social snub, to which he exposes himself, only makes him brood the more, and he throws up his post to return to the village where Lotte, now married to Albert, is living. His mind becomes more and more diseased, until his relations with the married couple culminate in a scene in which he loses his self-control and embraces Lotte in the absence of her husband. He returns home, and shortly afterwards shoots himself with a pistol which he has borrowed from Albert.

Now what was there in this hackneyed theme of two thwarted lovers to inflame a generation and run like wild-fire through the whole world, so that, as Goethe himself said, even the Chinese painted on glass the unhappy love-story of Werther and Charlotte?

Werther is the analysis of a soul that comes to grief through inability to attain harmony with the outer world. His chief

characteristic is a lack of will-power, which leads to a disinclination for any sort of activity. He intensifies his egoism to a morbid degree; he is impractical and passive, and these negative traits derive from his extreme individualism. He says of himself: "I turn in upon myself and find a world! But a world more of presentiment and obscure desire than of plastic, living power. And everything swims before my senses, and I wander on my way with a dreamy smile." He can win from his imagination nothing which is clear-cut; everything is vague. He falls in love with Lotte, who is engaged to his friend, and instead of fighting against his passion, he allows himself to be lulled by his emotions, from which he draws a sweet melancholy which hurts, and which yet gives him pleasure. Even when he can coolly and logically discuss the subject of suicide, which he justifies by argument, he asserts that when passion rules, man is helpless. This is not fatalism, but a weak yielding to the senses. It is obvious that Lotte is not Werther's fate, but that he carries the seeds of destruction in his own breast, and even if Lotte were not there, he would still be a Weltschmerzler. He does not shoot himself because he has lost Lotte, but because he has lost himself.

The love of the Weltschmerzler is for the great part egoism, for such a temperament can foster love without an object. The actual person, who becomes for the time being the love-object, is not really of any very great importance. If, for example, Werther had married his Lotte, his passion would not have lasted long. Only because he cannot have her, his egoism is intensified till it becomes a disease, and he seeks the way out in death. But let us look at the manner of his suicide. He sends to Lotte's husband and requests the loan of a pair of pistols. Lotte takes them from the wall and hands them to the servant, and Werther experiences a keen thrill of pleasure in the thought that the weapon with which he is to shoot himself has been handed to him by the woman he loves. He pictures to himself how he will be lying dead on the floor, and promptly sits down to add a postscript to his farewell letter to Lotte. He admonishes her to think of him when she climbs the hill, and to gaze across at his grave in the churchyard. The thought of the distress and scandal he is about to cause does not enter his mind, but he intoxicates himself with self-pity as he thinks of the grass on his grave waving in the rays of the setting sun. He imagines how Lotte on Christmas Eve (to increase the dramatic effect) will hold this farewell letter in her hand and moisten it with her tears. There is nothing more important in the world than his own ego, and through incessant introspection he becomes melodramatic. That is very important, as this melo-

dramatic dreaming is highly characteristic of the Weltschmerzler. It sometimes becomes translated into action, as in the case of one of the characters in a novel by Jean Paul, who actually shoots himself on the stage in full view of the audience, when playing a part that is supposed to end with suicide. Goethe, in his autobiography, describes how during the composition of "Werther" he had day-dreams in which he substituted fantasy for reality.

By writing this novel, Goethe cured the neurosis which was developing from his hopeless love for the real Lotte, but he infected innumerable people with the disease. K. P. Moritz says that every finished work of art would probably have destroyed its author if it had not been able to evolve itself out of his spirit, and he has come very near to probing the temperament of the Weltschmerzler. Many an attack of Weltschmerz has its genesis in a lack of creative power, and Moritz was throwing out the theory that artistic creation acts as a self-cure of a developing neurosis. Goethe saved himself by his power of self-expression, *i.e.* (in the language of psycho-analysis), he cured the neurosis which was arising from the repression of his love for Lotte. But if that love had been the passion that moves heaven and earth, no amount of so-called "confession" would have eradicated it. The erotic impulse of the Weltschmerzler, focussed on a definite love-object, can pass off harmlessly unless there is an insuperable obstacle in the way of fulfilment. In the latter case this impulse strikes back to inflame the vanity of the lover, and festers until it eats ever deeper into the soul.

In his psychological drama *Tasso*, Goethe recognises the value of the power of self-expression. Tasso is the half-mad Italian poet, whom the author presents to us just after he has completed his masterpiece *La Gerusalemme Liberata*, and is being honoured by the Duke of Ferrara, at whose court he is living. The arrival of the minister Antonio from a foreign mission leads to jealousy on the part of Tasso, who is offended at the aloofness and disdain with which the former addresses him. He confides his discontent to the princess Lenore, with whom he is secretly in love, and she persuades him to endeavour to cultivate Antonio's friendship. The latter, however, only taunts to fever-pitch the excitable poet, who draws his sword within the precincts of the palace and is reprimanded by the Duke. Antonio is now anxious to appease Tasso, but the latter suspects all who surround him, and decides to leave the palace. He goes to the princess, but instead of taking leave of her, he confesses his love and embraces her. He is, of course, repulsed, but Antonio approaches him with words of friendship, and the lonely poet, feeling himself on the verge of an abyss, clings to the experienced man of the world as his only salvation.

Tasso is an intensified Werther, but has one consolation that Werther had not. He says, "When man is dumb in his torment, a God gave me the power to say what I suffer," and in a poem entitled "To Werther," Goethe repeats the idea—"Entangled in such torments, may some God give him the power to say what he suffers." Both Werther and Tasso might perhaps have been cured of their hopeless love, but between their souls and the world there was a gulf which could not be so easily bridged.

Tasso represents the tragedy of the artist who cannot adapt himself to life, and it will perhaps be profitable to compare this play with another artist-tragedy, the "Sappho" of the Austrian poet Grillparzer. Sappho, the Greek poetess, falls in love with a simple youth who is incapable of understanding her. He, for his part, falls in love with a slave-girl, and they run away. Sappho has them brought back, but recognises her fault. She lets them go and hurls herself from the Tarpeian Rock. She had stepped out of her ideal world in order to enjoy a material love, and after painful experiences she recognises that she has done wrong. She had wanted to weave round her brow the wreaths both of Life and of Art, but she realises eventually that Art and Life are not to be reconciled. Those whom the Gods have chosen as their own must not consort with dwellers on the earth. Sappho is able to make up her mind on the subject and attains clarity of vision. Tasso, on the other hand, never has any clear conception of the relation between life and the ideal. He has not even faith in his own genius, and when, after the catastrophe, he turns to the materialist and man of the world, Antonio, in order to find in him his salvation, his return to reason is only a temporary reaction. He seeks in Antonio the contact with reality which he has himself lost. In one of the novels of a contemporary of Goethe named Klinger, we see the direct opposite of this motive. Here it is the man of the world, disappointed with reality, who turns to the poet because the triumphs which he has obtained through his reason have not sufficed to satisfy his soul. Reality has become *too* real, and he longs for dreams. That is an important difference. Goethe sends his morbid poet to find salvation with the materialist; Klinger lets his disappointed materialist be cured by the poet.

The hysterical element is seen best in the Pietist Jung-Stilling, who describes in his autobiography how all day long he was taciturn and reserved, but when he went to bed, he struggled with his hellish torment until the whole bed and even the window-panes rattled. A man who could write that in his autobiography is more liable to draw smiles than tears, but the occurrence shows to what spiritual torture Weltschmerz can lead. The poet Lenz fell in

love at different times with four women, whom it was absolutely impossible for him to have. One of them was an old sweetheart of Goethe's, whom the latter had left, but who never forgot him and who remained faithful to his memory; another was engaged to Lenz's own pupil; the third was Goethe's sister who was already married, and the fourth was an aristocrat and already engaged. It almost seemed as though he chose the very love-affairs which would cause him the most torment. He had always lived more in his fantasy than in reality, and he eventually went mad.

Goethe's *Faust* differs from Werther and Tasso in that he has an infinite longing to understand the riddle of the universe. For his spiritual yearnings he can find no satisfaction; he has a clear opinion of his superiority to the mass of humanity, as had both Werther and Tasso, but at the same time he recognises that the common herd is blissful in its ignorance, while he cannot find happiness in the common joys of life. He suppresses his Weltschmerz by signing a compact with the devil, who is to fulfil all his wishes. He wants not only enjoyment, but knowledge; he wants to burst the bounds of the material world and of thought, and is not content to lie and dream about what he cannot get, as Werther was. The impulse to act conquers the occasional moments of Weltschmerz. Faust's religion of Nature is deeper than that of Werther; he wishes to embrace the whole infinity of Nature, but Werther only saw one side of it at a time; it appeared to the latter sometimes in smiling guise and sometimes as an all-devouring monster, according to his mood. Werther's longings were eventually turned into the channel of his love for Lotte, and thus came up against the hard facts of reality. In the case of Faust the problem is quite different. His striving towards infinity is to be crowned with the highest success which is possible within the limits of humanity, and is not to succumb to the ardour of an unsatisfied passion. As Prof. Calvin Thomas says, Goethe has imagined a man whose disgust with study and sense of limitation have become an acute disease, so that he is ready to break with the moral order, and the idea of a disappointed dreamer, resolving some day in desperation to quit his brooding and enjoy himself in the world, is in itself perfectly natural. If the Weltschmerzler is not strong enough to deduce from his experience the general cause and so conquer his Weltschmerz through philosophising pessimism, he may be overwhelmed by the lower elements of human nature, and in the surrender to reality and its sensual delights, seek to forget his sorrow and unrest.[1] This latter course is the one taken by Faust.

[1] O. Plümacher: Der Pessimismus in Vergangenheit und Gegenwart.

There is a somewhat similar type of character in a novel called *Ardinghello*, by Wm. Heinse, which is important as being to some extent a forerunner of the *blasé* type of Weltschmerz which was to be so frequent in the 19th century. Ardinghello is a man who bears within him the seeds of Weltschmerz, but who is able to suppress it on account of the ease with which he obtains the two things he needs most—Art and Love. He appeases his imagination in the Art Galleries of Italy, and his erotic desires are satisfied almost as soon as they are born. When he has to leave Rome, however, and abandon its art treasures, the serpent Weltschmerz raises its head. "Separation," he cries, "is death, before which Nature shudders. . . . If I were an artist and citizen of an ancient republic, I might perhaps be able to hold out until the serpent-stream of Eternity again absorbed me into its clear depths." Similarly when he is unable to have the woman he wants, the world assumes a darker tinge, and he cries out that everything in Nature is happy, except Man. The disposition to Weltschmerz could not be more clearly expressed. He is the forerunner of the *blasé* heroes of the Byron-de Musset type who were to be so prominent in the early part of the next century. The "fatigue du nord," of which Mme. de Staël speaks, and which sent so many of the German poets to Italy in quest of spiritual rejuvenation, is nothing but Weltschmerz in one of its aspects.

There are two writers in the 18th century who show a pronounced disposition to Pessimism. K. P. Moritz in his autobiography, which he published under the name of *Anton Reiser: A Psychological Novel*, says that when the *Night Thoughts* of Edward Young came into his hands, it seemed to him as though he again found here all his previous conceptions of the worthlessness of life and the vanity of all human things.

F. M. Klinger, a contemporary of Goethe, who has already been mentioned in connection with "Tasso," is an even more striking example of the development from Weltschmerz in the direction of Pessimism. In his early days he was a member of the Storm and Stress, and as much a Weltschmerzler as any of his fellows. He went to Russia and rose to high rank, but though the revolutionary turbulence of his youth subsided, he never succeeded in throwing off his Weltschmerz, though the latter underwent a fundamental change. In two novels he describes two different Fausts, one having superhuman power, the other superhuman knowledge. Both these gifts lead to disaster, and in the latter case the hero's pre-knowledge of the consequences of his actions only serves to paralyse his faculties. It is only *illusion* that makes life worth living. In another of his novels, the hero's ethereal

view of love is shattered after his first experience of its carnal reality. Again the pessimistic thought that love is base except when surrounded by the halo of illusion. Klinger points out that life is transitory, and man's power to fulfil is not equal to the ardent desire that urges him on, subordinated as he is to Fate.

It is in Klinger that we find the first distinct traces of that more universal, or cosmic Weltschmerz, which was to be more common in the next century.

There are many more Weltschmerzler in the German literature of the latter half of the 18th century, each of whom adds some new aspect, but enough has been mentioned to show the mass of material which is to be found not only in the German, but also in the English and French literatures, by the investigator who is not content to believe that men like Byron and Schopenhauer were isolated phenomena when they first began to write. No new literary movement has ever sprung up except where forces were already working beneath the surface for a considerable period, and the way was being prepared for the pessimistic philosophic system of Schopenhauer by the epidemic of Weltschmerz which, though it is such a striking feature of German literature in the forty years which preceded the publication of Byron's *Childe Harold*, has hitherto received practically no recognition from that country's literary historians.

THE PSYCHOLOGICAL PHASE OF INSTINCT IN MAN

By PERCY GRIFFITH, M.Inst.C.E.

Synopsis

1. *Instinct accepted as Tendencies to specific activities, the Intelligence implied in specificity and purpose being regarded as external to the organism. The concept of "force" indispensable as attaching to an originative source.*
2. *The Physiological Phase of Instinct defined in terms of Purpose, namely, Self-and Species-Preservation.*
3. *Distinguishing Characteristics of the Physiological Phase of Instinct and reasons for excluding therefrom any Psychological factor personal to the organism, such as Conscious Fear. The physiological equivalent of human emotion described and illustrated by Prof. Lloyd Morgan's physiological definition of "learning from experience" in the case of animals.*
4. *The Parental Instinct in animals and in Man respectively.*
5. *The Instinctive Elements in Human Intelligence which warrant the recognition of a Psychological Phase of Instinct peculiar to Man.*
6. *The Salient Characteristics of the Psychological Phase of Instinct, e.g., thinking-memory-experience (as including unconscious elements)-the process of mental alimentation-the progressively-complex function of "psychical integration."*
7. *The Self in relation to the environment in physiological and psychological life respectively. "Sociality" as a Psychological Instinct-Tendency distinguished from "Gregariousness," its Physiological Prototype.*
8. *The Purpose of (or effects accomplished by) Psychological or Mental Life:- Acquisition of Knowledge-development of mental faculties-progressive Sociality.*
9. *Psychological Evolution distinguished from Physiological Evolution and identified with the "Advance of Civilisation," based upon human knowledge and Evolutionary because cumulative from generation to generation.*
10. *The Instinctive Elements in Human Intelligence illustrated by a study of the "Play Instinct."*

11. *The Psychological Elements in the Sexual Instincts peculiar to Man.*

12. (*a*) *The relation of Affect and Intelligence:—Difference between Physiological and Psychological Affect. Analogy of "Reflection." The Mind analogous to a continuous film of photographs reflecting experience as a whole.*

(*b*) *The relation of Affect and Instinct:—Analysis of Conscious Experience and definition of Instinctive activities as unconscious (not foreseen) "Suppression" and "Repression." The purpose of Affect in Instinct.*

1. In an article entitled "The 'Intelligence' of Instinct," published in *Psyche* (Vol. III, N.S., pp. 138–149) I endeavoured to justify a claim that the factor of Intelligence (regarded as foresight of a specific end or as "purpose foreseen") in Instinct is essentially external or impersonal to the organism concerned, and must be regarded as an external motive-power or "force" such as is required to operate any artificial or man-made machine.[1] In the case of any living organism there appears to me no other alternative than to describe the external force as a Force of Nature. As a Civil Engineer engaged in "directing the Great Sources of Power in Nature," the conception of instinct as natural forces operating in and upon living organisms, appears inevitable and indeed indispensable, but I am quite prepared to agree that as the Engineer *can* carry out his work of directing natural forces without ever considering the nature of their source, it is equally possible for the Psychologist, the Physiologist or the Physicist to confine his attention to the manifestations or results of "forces," and arbitrarily exclude from his purview the concept of "force" as such. Yet as I study the most recent conclusions arrived at by eminent physicists in regard to the elemental basis of matter, I find that these are now expressed in terms of "Electricity." The

[1] In my previous article I referred to Dr. Drever's work *Instinct in Man* as chiefly valuable for its survey of historical views on Instinct, and, having regard to the Physiological Phase of Instinct I was then discussing, I made no reference to the fact that Dr. Drever had concentrated his attention upon a definition of Instinct in psychological terms. It is necessary now to acknowledge that, although I had previously conceived the idea of a triple phase of life in the human "organism," my conception of a distinctly psychological phase of Instinct was derived from Dr. Drever's work, although, of course, it was not actually suggested by him. Any value which may be ultimately recognised in my own thesis must therefore be attributed primarily to Dr. Drever's work.

I am happy indeed to have his authority for attributing Instinct to natural forces, see Chapter I. (Introduction), p. 20.

"Electron" is, in fact, described in a recent work entitled *Outline of Science* as "a disembodied atom of electricity." Now, to explain the transmission of light through a vacuum scientists have for a long time past assumed, or, *imagined* the existence of a "medium" pervading space (designated "*the* ether" to distinguish it from a material substance bearing the same name), and although this medium has never been scientifically isolated or its existence proved, it is now again pressed into service as the "medium" conveying the vibrations or movements characteristic of Electricity. If, therefore, the electron is properly described as "a disembodied atom of electricity," we have matter itself resolved into terms of movement, and the material element which is in a state of movement is either non-existent, or else some unknown *thing*. If the constitution of matter itself cannot be more definitely described than as known movement of an unknown material, I suggest that Science must at least admit the concept of movement as essential in any discussion of matter. But if so, there must also be admitted some phenomenal *cause* for (a) the commencement, (b) change, and (c) the cessation of movement respectively, and here the concept of "force" arises as the only conceivable "cause" for either. As I now propose to identify and discuss a phase of Instinct operating in a non-material universe of Mind, I must ask at least that movement be accepted as the basic concept in our discussion. This being conceded, I shall for the moment dispense with the concept "force" as causal or originative of movement, and adopt the less debatable alternative of *Tendency*. All Psychologists make free use of the term "disposition" as applying to Instinct, and I shall employ the term "Tendency" as implying a "disposition" which is originated otherwise than by conscious volition. Of course, as we must ultimately recognise specific results as attaching to instinct-tendencies, themselves originated externally to the consciousness of the organism, we shall be compelled to admit an "Intelligence" inherent in this external Origin, but it is not my purpose to discuss the nature of this Intelligence, so that I shall arbitrarily exclude the concept of Force (even Intelligent Force) from the discussion. I must insist, nevertheless, that this exclusion *is* arbitrary, and shall later suggest the disadvantages which the exclusion involves.

2. In order to isolate psychological from physiological tendencies, it is first necessary to clearly define the essential characteristics of the latter. It was for this purpose that I endeavoured in my former article to isolate the "Intelligence" (or that which Dr. Drever terms the "knowledge") of Instinct from the personality of the organism concerned. As objectively observed, the physiological

phase of Instinct became manifest in a type of physiological activities which, I suggested, must include Reflex Action. It would thus be more appropriate to add the term "processes," and as the term "Instinct" clearly covers activities and processes which are sometimes obstructed, delayed or even prevented, our definition must be extended to include Tendencies to activities and processes as well as the activities and processes themselves. I believe that, with this conclusion accepted, I shall have general support in defining Instinctive tendencies as those which are conducive and necessary to species-preservation, and in assuming that the factor "self-preservation" is no more than an essential means of species-preservation. Such, at least, appears to be implied, even if not stated, in all recent works on Instinct. It is, however, necessary to point out two important inferences implied in this subordination of self-preservation to species-preservation, namely (a), that the preservation of *every* "self" or unit-life is not *necessary* to species-preservation, and (b), self or unit preservation is not *necessary* after the process of reproduction has been effected in any case. A study of the Economics of Nature, however, shows that all forms of living organisms, and all forms of inanimate matters are so closely inter-related and inter-dependent that it is impossible to regard even species-preservation as the *ultimate* purpose of Nature's processes as a whole. Meantime, it seems impossible to go further in a definition of the Physiological Phase of Instinct. It is indeed only by thus defining Instinct in terms of purpose that we can effect the isolation of Psychological from Physiological Instinct, but, on the other hand, it appears to me that the failure of Psychologists to regard Instinct in the light of its more remote, if not absolutely its ultimate, effects (here, of course, assumed as implying "purposes") has produced much needless divergence of opinion as to the real nature of Instinct. It is perhaps necessary to refer to the fact that all species of living organisms do *not* survive. In the cases of extinct-species, we are certainly compelled to admit that instinct-tendencies have failed to accomplish their "purpose," but such an admission does not preclude a discussion of Instinct in terms of purpose, seeing that we are under no obligation to assume either the infallibility of Instinct, or the necessity for *all* species to be indefinitely preserved. It is sufficient to rely upon the fact that it is by the operation of instinct-tendencies that species of living organisms *are* (objectively) preserved, or are (subjectively) enabled to "survive."

3. My present thesis claims (a) that this phase of Instinct is wholly physiological in its operation, the "intelligence" implied in "consistency of purpose" being a factor primarily external

(or impersonal) to the organism concerned, (b) that it is shared by animals and Man, being far more efficient in animals than in Man, and (c) that it is the only phase of Instinct inherent or innate in animals. My first point—that the Instinct of Species Preservation is wholly physiological in its operation—will, no doubt, be questioned on two grounds, firstly, because of the important part which "emotion" appears to play in the operation of Instinct; and secondly, because even animals are capable of "learning from experience," and thereby of modifying the activities primarily originated by Instincts. My reply to the first objection is that I regard "emotion" in animals as a physiological phenomenon and as, *in every case*, a concomitant, not of Instinct as such, but *of Instinct-tendencies resisted*. Taking as an illustration the emotion of "fear," I claim this as essentially a state of physiological tension or strain, only established by conditions dangerous to life, that is, antagonistic to self-preservation. This state must, on its first occurrence, arise apart from any foresight of the possible results, and be originated directly by certain particular percepts or sense-impressions without any intermediate stages of thought or reasoning. In animals I believe it arises in all cases as a direct result of particular sense-impressions, and that "experience" only serves to modify its operation by effecting a more or less permanent modification of nerve and brain structure. In the case of infants, it is similarly a physiological phenomenon, but it progressively acquires a psychological character by the operation of the psychological function of (human) memory, which is, in my view, a function of a character essentially distinct from that of its prototype in animals. This association between particular percepts and the physiological condition we term a state of "fear," is independent of personal intelligence, and, so far as it is purposive, the intelligence so implied is impersonal to the organism. The Instinct of self-preservation *is only rendered active by resistance* in the form of perceived "danger," but in animals and infants the *concept* of danger is non-existent, and percepts must therefore produce their *appropriate* results (such as tendencies to escape from danger by various means) directly, without any intermediate result of "conscious fear." In the case of Prof. Lloyd Morgan's moorhen chick who dived on seeing and hearing a "blundering" puppy, I contend that *the activity resulted directly from the percepts* without any psychological factor such as conscious fear. Even had the dive been objectively prevented, the chick would not have felt the emotion *we* term "fear," but only a vague sense of tension which could be accounted for or described in wholly physiological terms. As the dive was *not* externally impeded

there was no physiological tension other than the muscular effort necessary to accomplish the dive. In the case of an adult or "experienced" man, this physiological condition involves a coincident *psychological* condition, and in my opinion *this alone is properly termed an "emotion."*

The second objection—that animals "learn from experience"—is met by the simple expedient of defining animal intelligence in physiological terms. This has been done by Prof. Lloyd Morgan in *Animal Behaviour* (pp. 167–8), and I contend that if the phenomena can be thus accounted for in terms of brain and nerve structure, the assumption of coincident or supplementary psychological processes is unnecessary, arbitrary and unwarranted. It is, I presume, sufficiently obvious that the more complex phenomena associated with human intelligence cannot be similarly accounted for in physiological terms. At any rate, if such a theory is held, it is at the moment beyond the range of experimental proof.

My second claim—that the physiological phase of instinct is shared by animals and by Man—will, no doubt, be generally accepted, and it also seems needless to illustrate the relative inefficiency of instinct in infants as compared with the instinct of new-born animals. At birth, the infant is far less competent to "fend for itself" than any new-born animal, and I think it will be generally admitted that the survival of the human race has been due rather to the intelligence of parents than to the operation of instinct in infants. Behind this parental intelligence, however, we discover another Instinct of the greatest importance to my thesis in that it seems at first to imply the existence of a psychological instinct common to animals and Man. This "Parental" Instinct in Man has, however, a dual or complex character which is not shared by animals, and I have every confidence in urging that so far as its purpose and necessity lie in the preservation of the young, it is physiological in its operation as well as in its "purpose" or effect. In this respect it *is* common to animals and to Man, but Man alone reveals evidence of a purely psychological relation between parent and offspring, for the human parent alone is capable, not only of protecting, preserving or defending his or her progeny, but of sharing its emotions, and even its physical sufferings or pleasures, by *sympathy*. These higher phases of the Human Parental Instinct are, moreover, not confined to progeny, but operate in respect of other children. In women, they operate in regard to *all* infants and irrespective of parenthood, and in humanity at large they form the nucleus of tendencies which, if fostered by volition, develop into the highest forms of

altruism. In these respects the human parental instinct is wholly distinct from its prototype in animals.

5. Reverting now to the inferiority of the physiological phase of Instinct in human infants as compared with the new-born offspring of animals, it will be generally conceded that Man at an early age acquires his actual superiority to animals by the development of Intelligence. But the question immediately arises as to the extent to which Intelligence is personal to the individual, and whether it is not to a large extent of so universal a character as to be considered "impersonal," although, of course (like other Instincts), peculiar to the Species. On examination we shall find that, in its broader characteristics, and particularly in its more remote "purposes" or effects, Intelligence is primarily impersonal as being common to every individual. I contend that to this extent, the acquisition and exercise of Intelligence are instinctive processes or functions, and, being of a wholly psychological nature, they must be regarded as originating in *a Psychological Phase of Instinct peculiar to Man.* Let us, therefore, consider the broad characteristics and ultimate universal effects of mental or psychological life and activity, accepting provisionally the assumptions (a) that the intelligence of animals is a phenomenon which can be accounted for in physiological terms, and (b) that it is limited in its effects to the preservation of physiological species.

6. What, then, are the salient characteristics of mental or psychological life? Isolating these from their very intimate relations (both causal and sequential) with physiological activities, we first observe the general activity termed "thinking." We cannot, of course, either remember or observe the nature of a young child's thoughts, but we can, I think, safely assume that they are primarily confined to the simpler comparisons of sense-impressions which, with the co-operation of the retentive faculty termed "memory," become co-ordinated (as "experience") into the equivalent of mental content or "structure" which we term "knowledge." It is important to observe that this mental content or structure is not primarily or essentially conscious, and the term "memory" must be held to cover *experience as a whole,* including that which is unconscious and incapable of being remembered, as well as that which is conscious or capable of being revived in memory. It will be seen that the bulk of the former is much larger than that of the latter, and the term "experience" thus acquires a much wider connotation than is usually given to it. This fact is amply substantiated by the data relative to what is (for the moment, vaguely) designated "the Unconscious," revealed by the process termed "Psycho-analysis." Beyond the elementary

co-ordination of sense-impressions, the mind is obviously capable of functioning by a process very fairly described as "psychical integration," the nature of which is too closely analogous to the physiological process of digestion and assimilation for the analogy to be regarded as arbitrary or fortuitous. "Experience" appears as closely analogous to the physiological structure in that it is built up by a process analogous to that which, in its entirety, we term "alimentation." Moreover, in childish curiosity, or the general "want to know," we have the psychical equivalent of physiological "hunger," and in the affective phenomena associated with the acquisition of knowledge, we have equivalents of the pains and pleasures associated with physical feeding. The child is mentally distressed by "inconsistency," and develops mentally by the assimilation of digestible (*i.e.*, consistent) elements of knowledge. The process of psychical integration is also *cumulative* both as regards structure and function, that is to say, the progressive variety of content is associated with progressive complexity of the process of integration. Whereas the animal is limited to integration of sense-percepts in relation to self-and species-preservation alone, the child progressively integrates its more complex content into concepts progressively more independent of sense-impressions. In regard to pure concepts, we may fairly describe the function of creating them and recombining (integrating) them, as "imagining." This function arises *primarily* in the form of a specific (mental) tendency which may be designated "expectancy" as implying a natural, innate and causally-inexplicable tendency to assume that past experience will recur in identical relations of sequence and affect. Here, again, new affective elements arise (such as wonder, surprise or disappointment) when this "tendency to expect" is violated. A conspicuous characteristic of the progressive complexity of integration is the fact that, even in the early life of a child, the nucleus of mental activity extends beyond the limits of the self. This extension occurs quite independently of consciousness and conscious volition, although we, as adults, may be tempted to assume the contrary. The child acquires not only an interest in, but a capacity for *sympathy with, others than the self*, and this is, in some cases, wholly independent of the self. This phenomenon and others involving active relations between the human self and its human environment can, in my opinion, be traced to specific instinct-tendencies which, although peculiar to the human mind, necessitate and involve ethical factors, and are therefore beyond the scope of this article.

7. Nevertheless, the dominant characteristic of psychological development is a definite and progressive change in the *locale* of

that which I have termed the "nucleus of mental activity." This nucleus is often referred to as a "centre of interest" or "object of attention," but essentially it represents that which, in conscious volition, is termed "motive" (for activity). I claim, however, that this nucleus or "centre of attraction" exists and exerts a definite influence upon the individual mind quite independently of, and prior to, consciousness or recognition of it. The point now in question has been discussed at great length by Prof. McDougall in both *Social Psychology* and *The Group Mind*, and more recently by Mr. E. W. Hirst in a book entitled *Self and Neighbour*.

Reduced to its essence, the general facts may be summarised in the following postulate. *Physiological life is centred around the physiological self, whereas psychological life is centred round an "interest" in which other human individuals in particular, and the objective environment in general, acquire a progressive importance.* That this should be the case is an almost obvious result of the fact that mental content or "knowledge" consists of a constantly accumulating mass of percepts of the objective universe, such percepts being integrated by a natural process into concepts ever more and more remote from their originative percepts. The mental "structure" thus accumulates an ever-increasing mass in which the self remains more or less a constant, and therefore becomes progressively diluted or over-shadowed by concepts independent of self. Moreover, the child's mind (which I consider to be originated by sense impressions and therefore a post-natal acquisition) is so immediately constituted and developed by objective elements that it seems impossible to regard it as ever existing in any real isolation from its environment. With the acquisition of speech (which in my view is a concomitant, and neither a cause nor an effect, of the faculty of forming concepts) the psychological self becomes so quickly subject to the influence of other psychological "selves," that it seems impossible to regard psychological life as other than an interaction between one mind and other minds. This is confirmed by the rapid and fatal *psychological effects* of solitary confinement without any mental intercourse, such as speech, writing or reading. In terms of instinct-tendencies, I propose to designate the various originative impulses which produce this mental intercourse "Sociality," meanwhile claiming that it is an instinct as distinct from the "Gregariousness" of animals as the Intelligence of Man is distinct from that of animals. In reading—writing—telephony and telepathy, if such exists (methods of inter-communication peculiar to Man) we have an *intercourse between minds which is independent of physical propinquity.* While I am not prepared to go so far as to postulate the existence of a

concrete "Group-Mind," I do claim that the human mind is a species of living "organism," with characteristics (if not an existence) distinct from those of the physiological organisms in which it resides. Moreover, I contend that Psychology will make no effective advance as a Science of the Mind until it recognises, and concentrates attention upon, the human mind conceptually and experimentally isolated from its physiological *locale* and instrument.

8. I have now identified *thought or thinking* (as general activity), *the correlating of percepts into concepts* and *the integration of the concepts so evolved into more complex concepts* (a function dependent on the retentive capacity termed "memory"), ***imagining*** (a function involved in the formation of complex concepts) and all the varied tendencies and activities represented by the term "*Sociality*," as salient characteristics of mental life. But, of course, there are many others of lesser importance, my only purpose being to establish a basis for discussing psychological tendencies, functions and activities ***as such***, that is, in conceptual and experimental isolation from physiological tendencies and activities. I now turn to the results secured by mental or psychological life as distinguished from self-and species-preservation, which I have accepted as the result (or "purpose") of physiological tendencies and activities. So far as an infant can have any mental activity at all, it seems that its only possible "effect" must be to preserve the self, but, on the other hand, we have no objective evidence of thought activity until the very young child, under disciplinary "instruction," is taught, or rather compelled, to ***regulate*** physiological functions (such as excretion) and activities (such as feeding), and such control is certainly not essentially conducive to self-preservation. All control of the physiological instincts by the mind is, in itself, negative to the self-interest, and to the ***immediate*** welfare of the self.

Although we may confidently assume that the process of comparing and correlating sense-impressions, and their affective elements, commences at a very early age, we do not obtain objective evidence of purely psychological activity until speech enables the child to express wants and to ask questions. In "curiosity" I have already identified "mental hunger" as a natural desire for knowledge, but all the salient mental phenomena and activities referred to in the previous paragraphs can be recognised in a simple form in young children. What, then, is the purpose or end of these phenomena and processes? Granted that mental activity constitutes the "Intelligence" necessary to accomplish that which, in animals is accomplished by more efficient physiological instincts, and thus secure the (so called "biological") end of self-and species-

preservation, how can this end be foreseen by a young child ? and even when it is foreseen by the adult, what element in the mind makes self-preservation a *desirable* end ? More important still, is self-and species-preservation the *only* end accomplished by Intelligence, as representing the developing mind as a whole ? We must, I think, recognise that psychological life has other " ends " than self-preservation, and I suggest that, apart from the altruistic tendencies which I shall deal with in a subsequent article, and which I shall show to have higher " ends " than those accomplished by knowledge or intelligence as such, the acquisition of knowledge—the development of the faculties of correlating, integrating or " reasoning "—and the various phases of " sociality " in general, constitute specific " ends," universally characteristic of, and peculiar to, the human mind.

9. Such purposes or " ends " do not, at first, appear comparable with the more simple " end " of the physiological phase of Instinct, " Species-preservation." Of course, were we to expand the Darwinian Theory as to the evolution of each species from a " lower " species, and assume that Man is only a transient phase of physiological " life " in process of evolving into something " higher," we should have to substitute " species-evolution " for " species-preservation," but evidence that man *is* evolving in any physiological characteristics is conspicuously lacking. When, however, we transfer our attention from physiological to psychological life, evidence of true evolution (that is, *cumulative progress from generation to generation*) abounds. By means of the mental functions, remembering, imagining, forming complex concepts, and the coincident power of speech, man is able to compress the " experience " of any one generation and that of its predecessors into a form which can be transmitted to the succeeding generation. By this process, mental content becomes cumulative from generation to generation, and the Evolution of Man is manifest in that which we usually term the " Advance of Civilisation." I may here be excused if I point out that the process of Civilisation is, to a large extent, *accomplished* by the Engineer rather than by the Scientist, but, on the other hand, the Engineer would be helpless without the fruits of Scientific Research. I do not, however, interpolate this remark to glorify my own profession, but rather to emphasise the fact that " progress " is not measurable in either physical or psychological terms alone. In a subsequent article I shall show that it is not wholly to be estimated in a combination of both, but it will be generally admitted that human progress is revealed in that which Man *does* as well as in that which he knows. I therefore accept " knowledge " as the essential preliminary to progress

in any phase of human existence, and as that which alone is transmitted cumulatively from generation to generation. This cumulative transmission of mental content has, however, an important bearing upon the question of purpose or end in psychological functions. All the effects I have quoted as resulting from psychological activities and processes will be found to be essential constituents of *Human Progress in terms of Species*. The human unit-life does not accomplish its sole purpose in reproducing its kind. The human *mind* accomplishes ends which are progressive and truly "evolutionary" in their nature. Even the undeveloped and relatively uncivilised mind exercises some influence on minds in contact with it, and this influence is never wholly retrogressive. To the normally progressive or advanced mind, the backward or less civilised mind is repellent, but it is more. It impels the advanced mind to make further progress; and, more important still, it stimulates the educated to provide the means for educating the less educated. The ignorance of the child is, instinctively as well as intelligently, recognised as a deficiency. Such impulses, however, originate in a higher phase of the mind than that which is expanded by knowledge. The instinctive tendency to form concepts *of a progressively complex character* ultimately carries the advanced or developed mind into a domain superior to, but not inconsistent with, the Universe of Knowledge and "Reason."

10. In order to justify my claim that psychological phenomena can be, and should be, isolated from physiological or material phenomena, and psychological life from physiological life, I have passed (in paragraph 5) very summarily from the question of the instinctive origin of psychological experience to the salient characteristics of, and general result accomplished by, Psychological life as peculiar to Man. I must now undertake a closer examination of human intelligence in order to more definitely recognise those factors which are essentially instinctive, not only in child-life, but in the mental life of adults. It is, of course, generally admitted that the Instinct of Self-preservation persists unaffected by the development of intelligence. This, it will be observed, is only true so long as the Instinct is defined in terms of its results or purpose. As soon as we discuss the specific activities which are involved in the accomplishment of this "purpose," we find that they are subject to variation by intelligence in regard to both direction and energy or force. Moreover, these variations are peculiar to the individual and therefore "personal." The individual can voluntarily vary the "means," but not the "end," and he can also control the degree of energy or force inherent in the originative instinctive impulse. It is usually claimed by Psycho-

logists that this variation of the "means," and this control of the instinctive impulse, are *entirely* the result of instruction or precept and of personal experience, and therefore that they constitute the distinguishing characteristics of Personal Intelligence. This appears, to the casual observer, particularly obvious in child-life, but even here, Psychologists have been much puzzled to account for the specificity in childish "play," and have been compelled to admit an instinctive element designated the "Play Instinct." Groos' theory that the "biological value," or "purpose" of this lies in the subsequent application of the "experience" so gained has been widely accepted; but as the value of many childish forms of "play" (*e.g.*, those which involve either cruelty to inferiors or extremes of self-sacrifice) is decidedly *negative* as regards species-preservation, this theory is far from being consistent with the facts. It is impossible here to analyse and illustrate such a wide subject in detail, but it is very clear that a child's "play" becomes progressively more "epicritic" or complex. Primarily the infant can only indulge in random "protopathic" movements which are clearly physiological in character and purpose. Muscular exercise is necessary for health, and not only developes the muscles but produces the fatigue necessary to induce sleep. In this connection one may observe that by these random movements the infant acquires many elementary ideas as to spatial relations which constitute the nucleus of mental content; but apart from this, the infant's play has a purely physiological "purpose." The *progressive complexity* of children's play reveals, however, the purely psychological "purpose," or "end," which I have designated "Sociality." As contributory to this main purpose we also observe a form of "imitation" of a purely psychological character, that is to say, it is not a tendency to imitate specific movements, which is perceptual in origin and physiological in character, but a tendency to imitate purposes, which is conceptual in origin and psychological in character. Such are playing with bricks or mechanical toys, and some of the more epicritic activities connected with nursing dolls and pets. The last-named tendencies, however, have an instinctive origin of a higher ethical character, their direction being towards "love," a tendency having a higher "purpose" than either self-and species-preservation, or even intellectual development or "sociality" *per se*. In all these cases we may discover a universal purpose or "end," towards which personal intelligence only contributes a variety of means. In all the more complex forms of play called "games" we find a progressive complexity of means due to personal variations, but almost all games involve Social relationships and Social experience. The

Social relationships are of instinctive origin, and only the variety of the means by which they are demonstrated constitutes the *personal experience* which, in its turn, establishes a *personal Intelligence.* The former are universal and constant, and only the latter are variable and progressively complex.

11. In regard to adult-life, I cannot do more than briefly discuss that most important group of tendencies, universally admitted to be instinctive and commonly designated the Sexual Instincts. These tendencies are clearly psychological as well as physiological, moreover, they afford the most striking illustrations of the " Love Instinct," which I can here only mention as belonging to a higher phase of Instinct than that now under discussion. In their Physiological elements they constitute the essential means of species-preservation, and, in their general, as distinguished from individual, results they accomplish their ultimate purpose or " end." Again, urging that all the affective elements in animal life can be accounted for in physiological terms and are limited to physiological ends, I do not see any justification for assuming a psychological element even in the affective elements associated with sexual activities, but in the circumstances connected with human mating, the marriage-bond and sexual-intercourse, we have elements of a purely psychological character. The natural " coyness " of the young woman and the natural diffidence and " bashfulness " of the young man, in the presence of a possible " mate " of the opposite sex, have a psychological as well as a physiological significance. Even the association of the libertine with the prostitute involves an element of " Sociality," quite distinct from the gratification of the physiological tendencies the " purpose " of which may be, and usually is (naturally as well as artificially) frustrated. Personal intelligence may abuse and frustrate the purpose of any Instinct, but *the control of physiological sex-tendencies is primarily instinctive and not the result of human intelligence.* Experience, and instruction based thereon, of course, *confirm* the physiological tendency to control the physiological sex-tendencies, and thus lead us to assume that this control is *only* exercised by conscious volition, but I contend that it is *first* prompted by a psychological instinct, and that the general control of physiological activities which is peculiar to Man is an instinctive tendency, *subsequently* confirmed and directed by personal intelligence or " reason," and only *then* (and therefore) supported by conscious volition. Without a definite isolation of psychological from physiological processes, this phenomenon, so conspicuous a characteristic of *human* life, must remain an insoluble mystery. In case it may be urged that the " purpose " or result of psychological tendencies has no objective " value," I may reply

that species-preservation has *less* objective value than progressive "civilisation," but in the highest phase of Instinct we shall discover a higher value than civilisation *per se*. The standard of this "value" will, however, be found to be instinctive and not a product of human intelligence or knowledge.

12. The only other question I can here discuss (and that only too briefly) is the important relation of affective experience (such as "hedonic tone," feelings and emotions) to (a) Intelligence and (b) Instinct respectively. (a) In paragraph 3 I have suggested that physiological affect must be distinguished from psychological affect. The physiological researches of Dr. Head all point in a direction confirmatory of the theory that physical "pain" and physical "pleasure" (as the only quality of the "experience" of animals and of infants) will ultimately be identified as a physiological condition of nerve and brain structure peculiar to the individual as resulting from personal experience, but universally conducive to self-preservation. However closely associated physiological and psychological affect in human experience may prove to be, I claim that their relationship cannot be any more intimate than that implied by the term "reflection." Mechanical and imperfect though this analogy may be, it seems the only means of representing *in material terms* a relationship between a physiological and psychological "life" coincidently experienced by a single organism. If we analyse any sense-impression, and particularly those registered on the retina of the eye, we have something closely analogous to a "reflected image" as the relation between the seeing organism and the object seen. In the functions of introspection and memory we also have a combination of past experience with present experience (the one reflected—the other reflecting) combined in one organism. In the essentially psychological process of forming concepts—primarily by combining percepts (physiological sense-impressions) into simple concepts, and subsequently by the recombination of simple concepts into complex concepts, with all the infinite reintegrations of complex concepts possible to the highly-developed mind, we have something analogous to the composite photograph, a multiplicity of images and primary reflections, re-reflected on to a single picture. But in every case, from the most simple to the most complex, we have a greater or less degree of a qualitative element. Even the most abstract relations, with neither percept nor self consciously involved (*e.g.*, algebraical formulæ or trigonometrical ratios) we experience some faint degree of affect so far as we evolve the relations into concrete concepts, that is to say, every conscious relationship implies some element of "meaning," and every aspect

of meaning is either repulsive or attractive, "wrong" or "right." I therefore regard "affect," in its broadest connotation, *as the essence of consciousness*, and as analogous to *the reflecting medium* as distinguished from the "self" which sees (or, in psychological terms, *feels*) the reflection. Without following this analogy further, I must urge the necessity for distinguishing between the *consciousness* which operates to constitute "experience" that which it is as and when experienced, and the *reflective consciousness* which revives such experience in combination with other and more or less recent elements of experience, thus producing *a new concept, different from any concept formed either before or afterwards.* In my own mind I "visualise" the human mind as a continuous film on which are reflected (or photographed) all the constituents of mental experience, each illuminated by a particular degree of "affect," analogous to light (as representing pleasant experience) and shadow (as representing unpleasant experience). "Reflective consciousness" I visualise as that which appears to the experiencer in reviewing this film. Only a small part can be seen at one view. Pleasant or bright experience becomes prominent only by contrast with the unpleasant or dark experience, and the great mass of experience which is neither bright nor dark cannot be identified in detail at all; while the darkest parts are altogether "unperceived" or "forgotten." This analogy has, of course, no value except so far as it more or less accurately represents the facts, and it is only put forward as a basis for discussion and experimental test. The obvious purpose of affect in its relation to Intelligence is to direct or prompt volition to avoid all conditions which, in the past, have been associated with painful or repulsive "affect." A secondary result is to react as "pleasure" where "unpleasant" conditions are removed, avoided or prevented. (b) Of greater importance to my present thesis is the relation of Affect to Instinct. Here we must seek and discover an element of ultimate or supreme purpose as an essential element in the *quality of instinctive experience* as a whole. But here also arises the question:—Is instinctive experience conscious experience? Before we can answer this question we must understand exactly what we mean by "conscious experience." If I am startled by a sudden attack or a flash of lightning I find myself performing some specific acts which are only conscious as such *after they have been performed.* I do not consider these to be conscious activities, although they immediately afterwards become conscious experience. In the case of animals and infants, I suggest that such activities never become "conscious experience" in the same sense of the term. It seems essential, therefore, to regard instinctive activities as unconscious, at least,

until they have been performed; subsequent consciousness being obviously "reflective consciousness." This, of course, implies that volitional activities are those that have been at some time and to some extent *foreseen*. It is also of the utmost importance to observe that while instinctive activities are unconscious, unconscious activities are not necessarily instinctive, for when volitional activities are often repeated they *become* unconscious owing to the autonomism of "habit." Our task, then, is to study the purpose or value of affect when associated with activities which are unconscious until they have been performed. It seems to me that, whereas, in animals, affect is registered in a material modification of brain and nerve structure, in Man, this "registration" is a "reflection" on the (non-material) mental "structure," which establishes an objective and arbitrary "meaning" in connection with every experience. I suggest that this "meaning" attaches even to experience which is *not* subsequently capable of being revived in memory or "reflective consciousness," and that it is this factor which exerts so powerful an influence in the domain of "the unconscious" as revealed by the process of Psycho-analysis. I go further and suggest that it is a natural, instinctive and beneficent function of the human mind to suppress experience with an extremely painful "affect." When this is done *naturally* I do not consider it consistent with general experience of natural processes to regard it as the cause of neuroses. Where such results occur, I think it will be found that the *natural process* which, under the originating circumstances was beneficial, has been continued or repeated by *conscious volition* under circumstances when it was both unnecessary and harmful. To such "volitional suppression" I should apply the term "repression," and I suggest that if the discussion and definitions of these terms contained in the late Dr. Rivers' *Instinct and the Unconscious* are examined in the light of this thesis, they will acquire a new meaning of considerable value in Psycho-therapy.[1]

The purpose of affect as attaching to Instinct in Man, therefore, appears to lie in the fact that it forms the basis of the "meaning" which becomes progressively established as the *true* quality of all past experience or observation when *reflected* in consciousness. This is, of course, the essence of Intelligence, and I therefore claim that *human Intelligence is primarily constituted by Instinct.* In the domain of Ethics, we shall discover that human Volition has the

[1] This subject has been very fully and lucidly discussed in a recent work by Prof. J. A. Hadfield entitled *Psychology and Morals* [reviewed elsewhere in this issue.—Ed].

power to distort Intelligence, and thus frustrate the beneficent result or purpose which pure Instinct invariably accomplishes when not obstructed, either objectively or subjectively. This frustration is, however, only possible in the case of the individual. The whole "purpose" of psychological Instinct *is* being progressively accomplished in the life of the Human Race as a Species, exactly as "survival" *is* uniformly and actually accomplished in the case of all but a very few species of animals, and certainly in Humanity as a Species.

THE ULTIMATE MEASUREMENT OF INTELLIGENCE

By C. A. RICHARDSON

The value of intelligence tests depends largely, if not entirely, on their prognostic capacity; and this capacity, again, depends on their ability to furnish for any given individual an index which does not vary with time but remains constant. It is claimed that the intelligence quotient constitutes a close approximation to such an index. This seems to be undoubtedly true, but the I.Q. is only an approximation, for in certain cases it is found to vary, sometimes over a fairly considerable range.[1] The occasional large variations found in "normal" (not average) persons are not, of course, of much value as evidence on this point, for such occasional variations might well be due to accidental causes arising from the particular circumstances of the testing; but, on the other hand, there is evidence in the case of defectives, for example, of a fairly consistent variation in I.Q.,[2] and this alone would show that the constancy of the I.Q. is not a postulate of universal validity, though we cannot yet be sure in what cases and to what extent it breaks down.

In these circumstances it may be of interest to endeavour to elucidate just what is, or should be, aimed at in the determination of a quantity like the I.Q., and what is the ultimate goal of the procedure of which the determination of the I.Q. is a most important preliminary part.

First of all, it must be made clear that this inquiry is not concerned with the real nature of "intelligence," or the real nature of whatever is measured by intelligence tests. We need only grant that the capacity measured is an important one. But if our tests are to possess universal prognostic validity they must measure

---

[1] In connection with these points compare Terman, *The Measurement of Intelligence*, chap. ix., and Gray and Marsden, "The Constancy of the Intelligence Quotient" in *The British Journal of Psychology* (Jan., 1923).

[2] Cf. Burt, *Mental and Scholastic Tests*, pp. 151 f.; and Kuhlmann, *A Handbook of Mental Tests*, p. 16.

something which for *any* individual (whether subnormal, normal, supernormal, or abnormal) is constant or independent of time (*i.e.*, in this case, of age) and circumstance. The I.Q. is a quantity something like this, but it is not exactly what is wanted, for the reasons given. In finding it we have not achieved absolute certainty not because our scales are fallible, but because what they measure is not absolutely constant. It is, therefore, important to determine, so far as we can, the general nature of the absolute constant which, in this connection, we must ultimately attempt to determine.

The kind of problem we are here faced with can be made very much plainer by an example taken from dynamics. Let us suppose it is required to find an absolute constant which shall provide us with a characteristic index of any particular simple pendulum. We may assume for simplicity that the mass of the string, the mass and dimensions of the " bob," the air-resistance, and the friction at the point of suspension are negligible ; and also that we are confined to one place, so that g (the acceleration due to gravity) is constant.

Now it might happen that our first experiments were made with small oscillations and with practically inextensible strings. We should then be led to the conclusion that for a particular pendulum the period of oscillation t is constant. The period is, in fact, given by the simple formula $t=2\pi\sqrt{\frac{l}{g}}$. Since l, the length, and g are constant for this particular pendulum, t will be constant. We might therefore infer that the period is a characteristic constant index of *any* simple pendulum.

Two kinds of causes may operate to upset the conclusion thus arrived at namely external causes and causes arising from the internal structure of the pendulum itself. As an example of the former we may consider large variations in the amplitude of oscillation. Even in experiments confined to small oscillations sufficiently accurate observation would have shown that the period t was not an absolute constant, and as soon as cases of large amplitude came under review, it would be seen that the period could no longer be regarded as a characteristic constant index. The simple formula above is, indeed, replaced by one much more complicated, for the constant 2π becomes an inverse Jacobian elliptic function with a function of the amplitude as the associated modulus. We should, therefore, have to fall back on the *length* of the pendulum as the characteristic constant index.

But this second approximation might be upset by disturbing factors of the other type, namely, those arising out of the internal structure of the pendulum. For, as our experiments proceeded, we

might come across cases of extensible strings varying in length during the oscillations. The behaviour (*i.e.*, the nature of the oscillations) of the pendulum would then depend on *two* constants determined by its structure, namely, its "natural" length and Young's modulus for the substance of which the string was made. These two constants would be characteristic indices of the kind sought.

We cannot, however, assign a definite limit to this process of determining by successive approximations the ultimate constants characteristic of a dynamical system. In the case considered, for example, large changes of temperature would noticeably affect both Young's modulus and the natural length of the string. We should, therefore, have to determine two more constants, namely, the respective temperature coefficients of change, and this kind of thing might go on indefinitely; but the point that concerns us is that, in the case of a dynamical system, if only we push our experiments and observations far enough, we arrive ultimately at a constant, or a set of constants (or, at any rate, quantities whose ranges of variation diminish indefinitely as investigation proceeds), characteristic of the system in so far as they arise from elements inherent in the structure of the system, and not from conditions external to it. The determination of these characteristic indices enables us to predict infallibly the behaviour of the system in any given circumstances.

In the measurement of intelligence we are concerned not with a material but with a psycho-physical system. Yet the comparative constancy of the I.Q. is presumptive evidence that a state of affairs exists here analogous to that existing in a dynamical system. In this case the I.Q. is an approximation to the constant, or set of constants, we must finally endeavour to determine.

Consider the case of mental defectives. Here the I.Q. seems to remain practically constant up to the age of 10 to 12 years, when it begins to diminish.[1] Thus for mental defectives the I.Q. is not a constant index, but perhaps *the rate at which the I.Q. diminishes* (or some associated quantity) may be a constant index. Hence the formula $I=A$ (where A is a constant) is not of universal validity for the intelligence quotient I. A more comprehensive formula might be $I=A+B\,f\,(t)$, where A and B are (relatively) constant and t is the time. In most cases the value of B would be negligibly

[1] This diminution appears to be a real one. It should be noted that the *apparent* change in I.Q. due to the slackening in the growth of intelligence after a certain age can be eliminated by appropriate methods in the measurement of the I.Q. *Cf.* my *Methods and Experiments in Mental Tests*, chap. iv.

small, but not in all cases. The function $f(t)$ would be such that its values were unimportant until t approached 10 years. The formula would then cover the case of defectives, but it would be necessary to determine both the characteristic constants A and B.

Again, it might turn out that A and B were not absolutely constant. We should then have to experiment further to find the underlying constants which determined the laws of variation of A and B. But the point is that ultimately there must be a constant, or set of constants, inherent in the individual, which are characteristic indices determining his "intelligent" behaviour under any given conditions. We may not be able to determine these ultimate constants, but we may perhaps be able to determine successive sets of quantities whose ranges of variation decrease without limit. The practical measurement of intelligence is greatly simplified by the fact that usually one of these quantities far outweighs all the others in importance, namely the quantity A, which is in general practically the same as I, the intelligence quotient. But this fact cannot diminish the theoretical (and ultimately, perhaps, the practical) interest and importance of determining the minor constants involved.

In our dynamical analogy the first approximation to a characteristic constant index, namely the period of the pendulum, might be compared to the quantity measured by ordinary school attainment tests. The second approximation, namely the length of the pendulum, might be compared to the quantity measured by intelligence tests, *i.e.*, the I.Q. A child's rank by attainment remains constant and independent of time only within a narrow range of variation of the external conditions such as home and school circumstances; but it involves as its most important element another quantity, namely rank by intelligence, which is constant with changing time over a far larger range of variation in the external conditions. It is not, however, absolutely constant, but must involve other more nearly constant quantities analogous to Young's modulus and the "natural" length of the pendulum in our example.

Evidently the next step should consist in prolonged and exhaustive examination of all types of cases in which the intelligence quotient is found to vary, with a view to determining the law of variation as exactly as possible. This accomplished, we may gain some insight into the nature of the further relatively constant factors involved, and hence into the kind of tests required to measure them. Whether these tests will be but refinements of intelligence tests, or altogether different in kind from the latter, is a question which only the future can decide.

NATIONAL WELFARE AND NATIONAL DECAY

By HELEN WODEHOUSE

Professor of Education in the University of Bristol

I

"The philosophers tell us," says a letter in a weekly paper, "that our lives are made up of but two factors heredity and environment—and that, of these, heredity is much the more powerful. Common experience corroborates this. If we want a man for a job we bother comparatively little about his circumstances: much about himself." We might wonder at first that the writer should have found such unanimity both among 'the philosophers' and in common experience; until the third sentence removes our difficulty by identifying the man himself with his heredity and nothing more. Still, this writer is not afraid of difficulties, nor of forming judgments which might have seemed impossible to form except on the basis of very delicate, very wide-reaching statistics. He states in a subsequent paragraph (italics mine), "It is plain to anyone who notes what is going on that *each year* the average of our people is getting . . . a little less capable of enjoying the better forms of happiness."

The letter on the whole is quite well written, and its main point, that politicians should not neglect the question of heredity, is a point worth making. We must welcome widespread interest in any important problem, even when it causes intelligent persons to write nonsense.

Interest so widespread, as undoubtedly it is, should ensure a good public for Professor McDougall's new book on *National Welfare and National Decay*, even without those readers who would take care to study anything written by the distinguished psychologist we have given to America. Therefore it is all the more important that such books, sound (as I think) in their main doctrine and eloquent in its advocacy, should be sound also in their details and side issues, and in their negative as well as their constructive teaching. For these secondary points will be caught up and quoted by their readers, and by disciples of their readers, even more perhaps than those which are central.

The central purpose for Professor McDougall is to call our most serious attention to a national danger, and to propose a possible

remedy. The danger lies in the tendency of successful families to have fewer and fewer children, while the unsuccessful go on having as many as before.

> "The upper strata . . . become relatively infertile. The causes are varied and complex, and in the main psychological: late marriage, celibacy, and restriction of the family after marriage are the main factors. . . . It is a well-nigh universal phenomenon. . . . In Britain it has reached the skilled artisan class, the pick of the wage-earning class, and is displayed acutely in that class. Meanwhile the lowest strata continue to breed at a more normal rate: the birth-rate remains highest among the actual mental defectives." (p. 159).

Now this, says Dr. McDougall, has happened before, and each such happening has meant the end of a civilisation. Each great race in turn, coming thus to reproduce itself from the bottom, has become inadequate to sustain the world which it has built up, and that world falls. I am not convinced by this theory. To believe that every civilisation has perished from the same causes seems too much like believing that every dead man has died from heart disease. But all may agree that heart disease is a serious matter, and that we should prevent it if we can.

The remedy proposed in an appendix to the book is the public endowment of good parentage. Every approved family

> "should know that the addition of each child should automatically bring with it an increase of income sufficient to meet the expenses normally incurred in the bringing-up of that child. . . . This increase . . . should be not less than one-tenth of the earned income. . . . A family earning an income of £500 a year would then receive, for each living child under the age of, say, twenty years, an additional income of £50 a year. (p. 197). The principle is the same as that of the separation allowances paid to soldiers . . . during the war. In the British Army these allowances were made larger in proportion to the number of children and in proportion to the rank and pay of the soldier; so that a sergeant-major, for example, with a large family received a very much larger pay than an unmarried private."

Not all will approve of this proposal, but I approve of it myself, in principle, though I should not follow Dr. McDougall in all his details. I consider the nation wasteful in allowing me almost the same income as my colleagues who have children to bring up. I contribute a little towards their expenses, since they have a remission of income tax in which I do not share, but I ought to be made to contribute much more. When a special tax is imposed for this purpose on each grade of income, I will gladly pay it.

In essentials, then, I wish to make it clear that I agree with the argument of Professor McDougall's book. The following comments refer to details and side issues, and to sentiments expressed by the way, and to the book's negative side—the exclusiveness of the emphasis it lays on this one amongst the dangers of our civilisation.

II

The first criticism I would make is introductory only. Surely Dr. McDougall exaggerates the present selectiveness of social strata. His mental vision shows him the English social ladder pumping youths of talent out of every level into which they are born, and placing them at a height where they cease to have children to replace them.

> "The villages continue to be drained more completely of their best elements; the towns sift out the best-endowed of these immigrants and pass them up the social scale to become sterilised by their success. The process tends to accelerate and accentuate itself as it continues. . . . But it is a process which cannot continue indefinitely. There must come a time when the lower strata, drained of all their best strains, can no longer supply recruits who can effectively fill the gaps in the upper strata and serve as efficient leaders in all the arts and sciences of civilisation. With increasing demands and diminishing supply, a point must be reached at which the supply falls short. That is the climax, the culminating point of the parabola of that people: when a people reaches that point, it stands at the height of its career, but it stands on the brink of the downward plunge of the curve." (p. 160).

If it is any comfort to a eugenist, he might remind himself of all the missing rungs on the ladder and all the blocks in the pump—the elementary school from which no pupil ever gains a scholarship; the children who can find no room in the secondary schools; the youth who is born to practise medicine and cannot afford the training; the girl with a genius for teaching who must become a mill hand because the family cannot wait for her earnings;[1] and the picked family, struggling upwards, whom the illness or death or unemployment of the bread-winner tumbles down into gross poverty once more. But it would not be a comfort to him any more than to us.

It may be more comfort to notice that the sterilising selection, so far as it works, is of a rather narrow kind. The ladder selects some of us for general ability, and for skill and steadiness and patience, and for energy and staying power, or driving power, and for making known the gifts that we possess. These are necessary elements in a great society, but they are not the only elements desirable, and perhaps we should not wish, if we could, to multiply them all without limit. We need not only gifts of intellect and will, but gifts of feeling, not only leadership but followership and fellowship, and worldly selection has little bearing on these. Of the Negro race, Dr. McDougall quotes, "They have the whole range of primitive sympathies exceedingly well developed. They have a singularly quick, sympathetic contact with the neighbour; they attain to his state of mind and shape themselves to meet him";

---

[1] In either trade she is likelier to have children than if she had become the superior domestic servant whose disappearance is so often lamented.

and he adds, "When Negroes have been well handled . . . they have proved themselves to be capable of extreme courage, devotion, and loyalty; to be, in short, ideal followers." Without prejudice to the 'superior' types, are these not qualities without which any world would be badly off?

Civilisation is a word of varying meaning, but a true civilisation, organising the richest and most various life, should be able best of all to make use of a variety of gifts, and to shelter and uphold a man where he is weak, so that his special strength may issue for the good of all. The cheerful friendly person who brings my letters in the country could never bring them if brigands had to be resisted or eluded on the way, but in a civilised country-side he performs a useful function very well.

This brings me to my second main criticism of Dr. McDougall's sentiments—that his conception of civilisation is too rigid. In particular, he seems to make everything of its demands on us, and nothing of the power that it gives.

> "The great condition of the decline of any civilisation is the inadequacy of the qualities of the people who are the bearers of it." "Is it possible . . . adequately to prepare the rising generations for the immense responsibilities they must bear? Are their innate qualities such as will enable them to rise to the level required by the increasing complexity and difficulty of the tasks that will be laid upon them?" Even "without change of the essential qualities of a people, those qualities may become relatively inadequate to the support of its civilisation; just because advancing civilisation makes, with every step of progress, greater demands upon its bearers." (pp. 36, 39).

Surely the backwardness of a civilisation makes its demands also. Soon after reading Dr. McDougall's book I read a study of the Paston Letters. I should feel some inadequacy of quality myself as a country housekeeper in the fifteenth century, when supplies had to be laid in nine months ahead, and an order for cloth might take twelve months to carry out, and sending an order by post depended on the chance of a messenger and of his remembering to deliver the letter, and the bringer of the goods had to get round the holes and morasses in the highway, and the payment for them had to get round the highwaymen. We might feel inadequate also as the master of the house, when keeping possession of it demanded either interest in high places, or the command of a private band of soldiers, or both.

Dr. McDougall does not illustrate from house-keeping, but he gives a very curious illustration from the art of medicine:—

> "Two hundred or one hundred years ago, the knowledge to be acquired by the medical student, before entering upon the practice of his profession, was a comparatively small body of empirical rules. The advance of civilisation has enormously multiplied this knowledge. . . . The acquiring and the judicious application of this mass of knowledge

make very much greater demands upon the would-be practitioner than did the mastery of the body of rules of our forefathers. Accordingly, the length of the curriculum prescribed for our medical students has constantly been drawn out, till now its duration is some six years of post-graduate study. The students who enter upon this long and severe course of study are already a selected body; they have passed through school and college successfully. We may fairly assume that the great majority of them correspond to the A or B men in the scale of intelligence applied to the American Army. What proportion of them prove capable of assimilating the vast body of medical knowledge to the point that renders them capable of applying it intelligently and effectively? If I may venture to generalise from my own experience, I would say that a very considerable proportion, even of those who pass their examinations, fail to achieve such effective assimilation. The bulk of modern medical knowledge is too vast for their capacity of assimilation, its complexity too great for their power of understanding. Yet medical science continues to grow in bulk and complexity, and the dependence of the community upon it becomes ever more intimate; for the natural resistance of the population to disease declines, in proportion as the population is effectively protected by medical science from the selective action of diseases." (p. 169).

(Therefore, we might interpose, in proportion as it is not effectively protected, the natural resistance will endure or increase, and so all rights itself. But Dr. McDougall's conclusion is different.)

"In this one profession, then, which makes such great and increasing demands on both the intellectual and the moral qualities of its members, the demand for A and B men steadily increases; and the supply in all probability is steadily diminishing with each generation. And what is taking place in this one profession is, it would seem, taking place in all the great professions and higher callings. Our civilisation . . . is making constantly increasing demands upon the qualities of its bearers; the qualities of those bearers are diminishing or deteriorating, rather than improving."

"Constantly increasing demands . . ." It is not exactly that Dr. McDougall (like an American quoted by Professor Graham Wallas) 'does not manage to think of education as a process of learning things';—he does see it in that way, but in the oddest manner he thinks of this learning merely as an increasing burden and severity, not as an equipment and help. Why not turn the comparison round? "What a clear, powerful and discerning mind must have been needed by the physician who had to set out equipped only by two or three years of training and a small body of empirical rules. Only the most superior intelligence and character could meet the demands of professional work in those days. Even in the eighteenth century, what genius must have belonged to a practitioner who tackled phthisis or typhus or malaria as any third-rate doctor would be able to tackle them now."

On the other hand, quite possibly we are wasting time and strength at present by not recognising fully enough the new need for division of knowledge. I speak as an ignorant outsider, but

I suppose that the science of medicine has come into the same state as the body of science in general,—that no one mind now can be master of it all. We need henceforth to know what we can, and to know where to refer ourselves, or our patients, or our pupils for the rest. We have extended the human mind by more wisdom than one man's mind can ever contain, and our organisation must keep pace.

Now this seems an important clue. In examining Dr. McDougall's other illustrations, I shall suggest that the demands of a growing civilisation, in general, are not demands addressed to bare individuals, nor directed primarily on the qualities of these. They are *demands for better institutions and customs, for the growth and direction of ideas. Civilisation demands the extension and improvement of itself.*

III

> "Advancing civilisation makes . . . greater demands upon its bearers. Let me illustrate by reference to three great features which . . . appear in all civilisations. First, increasing control of natural resources gives men leisure and opportunity to seek relaxation and amusement. Now leisure and amusement are dangerous things, as some of us know. Few men are capable of using leisure and of choosing their amusements entirely wisely, and some men are quite incapable of doing so. Well, civilisation inevitably lays upon great masses of men this responsibility. How do they respond to it?" (pp. 36–7).

Dr. McDougall answers the question for ancient Rome. Let us compare two answers for a district in England, with seventy years between them. I have chosen them, somewhat at random, because they happen to refer to the same county, and both are vivid descriptions. The first is given by S. Scriven, Esq., reporting in 1842 on the North Staffordshire Potteries District, to the Employment of Children Committee:—

> "Intemperance in intoxicating drinks is a serious evil among the working class. Many of them allowing their families almost to starve and to beg in order that they may indulge in this vice. The number of public-houses, beer, and spirit-shops being great, and the latter appearing to enjoy a very prosperous trade. I almost tremble when I contemplate the fearful deficiency of knowledge existing throughout the district, and the consequences likely to result to this increased and increasing population. . . . It is not from my own knowledge that I proclaim their utter, their absolute ignorance. I would refer you to the evidence of their own pastors and masters, and it will appear that as one man they acknowledge and lament their low and degraded condition."

In the second account

> "an anonymous writer in the *Round Table* (1914) imagines Erasmus coming to England to meet his fellow scholars and going, not to Oxford or to Cambridge, but to North Staffordshire. In the later afternoon, when the factories close down, Erasmus is fetched by a workman student, and carried out first by train and then in an antediluvian carriage (specially provided for this occasion) to an inaccessible village on the

top of a hill. There in the schoolroom he finds an eager audience gathered together from this and the neighbouring villages. They have come to hear about the French Revolution, to be thrilled with the story of a great national drama. Erasmus had almost forgotten that history is first and foremost a story. This evening reminded him. He saw the Bastille fall under his eyes, and felt the news of its capture reverberating through France. He lived for an hour in 1789, as the story rolled out from the lips of a trained public speaker. The miners and the field labourers and the village shopkeepers and the old village schoolmaster in the chair were in France too; question after question poured in till the primitive conveyance stood once more at the door. And so back to the wayside station and in the slow train to Stoke, with high converse on the way."[1]

I do not know of any evidence that we have a difference of race here. If people are to have leisure, they must have such knowledge as will enable them to form, and to work out, ideas of the way to spend it, and they must have such institutions as will give this knowledge and will make this spending possible. Having begun civilisation, we must go on with it; and the more vigorous the race, the more imperative such going on will be. If we give leisure to a man for whom custom and ignorance and lack of opportunity close most of the channels of fine human interest, then a naturally powerful brain and active body may sometimes lead him to use that leisure more disastrously than his fellows do.

"Secondly, the increase of complexity of personal relations tends also to demand ever higher qualities from the persons concerned. Consider the relations of employer and workman. In the days of slavery, whether in Greece or Rome or Virginia, how simple were the qualities required for the satisfactory working of the institution, the relation. The owner of an estate worked by slaves had only to be an intelligent and kind-hearted man in order to be surrounded by happy faithful workers, a benevolent autocrat in the midst of grateful and devoted followers. And in the intermediate stage of small farming and small industry, where the employer is in close personal contact with all his men, a small dose of kindness and good sense goes a long way to the maintenance of satisfactory relations. But to-day, in our industrial world, what great demands are made on the qualities of the employer! How patient, how understanding, how far-sighted, how humane he must be, if he is to avoid bitter strife with his work-people!" (p. 37).

Is it true that higher qualities are demanded from persons as personal relations become more complex? I am not sure. The qualities are different. Some persons might do well as heads of a large business who would prove inadequate in a small one, through lacking perhaps that pleasantness of manner or that interest in individuals which is almost indispensable if the work of a small group is to be very well run. Perhaps the qualities of a large employer are the less common, but then we need fewer of him. The

[1]Quoted in *An Adventure in Working-Class Education*, by A. Mansbridge, p. 26.

more substantial difference, I suggest, is this, that the bigger the scale of an institution, the bigger is the difference between smooth and rough running, and the effects of both ; and the more complex and differentiated a society becomes, the more indispensable it will be to get the right persons into the right places, and to have them all in right relation to one another. The increase in scale does demand ever higher qualities from the ideas and institutions concerned.

If we have five hundred small employers, the incapacity of one fifth of them will cause much waste, but it will not cause a big smash, and it may escape notice. But if a community is organised in five great interdependent groups, an incapable head of one may smash the whole. In the former case, we have been used to put up with several ways of appointing heads. We have let an employership pass from father to son, or go to the highest bidder, or the lowest bidder. Dare we submit any of these plans to the test of the large scale ? In general, a flaw in a social institution is borne with so long as the machine is small and the power slight. The result is wasteful but not catastrophic. When we magnify the size and multiply the power sufficiently the danger-test comes. War itself, as a means of settling differences, could be borne with until now.

Because through four or five generations we have been struggling with a growing scale, and are still only at the beginning of knowing how to deal with it, therefore it is hard to find examples here which will not raise vehement controversy in somebody's mind. But the following example shows an unusually interesting situation. My account is abridged from an able article in *The New Statesman*, August 5th, 1922.

> " For some time past, a new coalfield, destined to rank among the most important in Great Britain, has been under development in the South of Yorkshire. Doncaster, the heart of this coalfield, is clearly marked out as the centre of a new industrial area, in which great factories and new centres of industrial population will develop. From a small town . . . Doncaster will become before long a big industrial and commercial city. The rural districts and villages around it will be peopled with a new folk, working in the mines and factories. If this area is left to the hazards of private enterprise, a new Sheffield or a new Leeds will be the result.
>
> Realising this in good time, . . . the West Riding County Council, the Doncaster Town Council, and seven Urban and Rural District Councils set up some time ago a joint Regional Committee with instructions to draw up a comprehensive regional plan of development for the whole area. Professor Abercrombie, the best-known town-planning expert in the country, was retained. . . . The ground has been surveyed : such factors as the likelihood of mining subsidence have been taken into account : proposals have been made for a complete system of roads and for the adaptation of railways and canals to the new needs of the area ; a joint system of pumping and drainage is suggested for all collieries :

> the facilities for the supply of water and electricity have been surveyed, and plans put forward for their development on a regional basis. And, most important of all, an attempt has been made to allocate certain definite areas for factory development, for residential districts, and for preservation as open country, in order that the factory may be placed where it can secure the best facilities for transport without destroying the healthfulness or amenity of the residential areas, and that the workers may be enabled to live within easy reach not only of their work but of the town and the open country.
>
> . . The nine local authorities affected have shown their foresight . . . But they are nine local authorities, and not one, and the Regional Committee which they have formed is only an advisory body. The practicability of real regional development of the area depends, not merely on the excellence of the plan devised, but on the existence of a regional authority with power enough to put the plan into execution. A mere Joint Committee, requiring for all its proposals the sanction of each of the separate local authorities within the area, will almost certainly be ineffective. If, on the other hand, the Regional Committee is given independent power of action, what becomes of the control of the public over it? It runs the risk of becoming a great spending authority, practically immune from popular control, and in constant danger of friction with all the authorities within whose areas it attempts to operate.
>
> . . . This it is that makes the Doncaster scheme so interesting and so important. In setting out in common to develop a new region as a whole, the local authorities concerned are feeling out towards a new system of local government, or at least a considerable adaptation of the existing system. . . . They are doing the work of pioneers, and the fate of their scheme will be watched attentively by everyone who is concerned in the problems of local government structure. . . . It is the first endeavour to deal systematically with the problems of an important industrial area, and to prove that the development of industry is not necessarily inconsistent with good housing conditions, amenity of living, and the preservation of natural beauty. . . . Success will have consequences far more than local. . . ."

Yorkshiremen are born now much the same as when *Shirley* was written or Sheffield was built. At any rate in Dr. McDougall's view they are not born better. The action described has been conditioned, not by new innate qualities, but by new ideas in the air and by the political invention of local government a generation ago. The problem they have next to face is a problem still of institutions and ideas:—a typical problem, as I think, of a growing civilisation.

Returning to Dr. McDougall's own illustration, I would go further. If we do increase the innate qualities of which he thinks most,—if men are born with more intellect, more courage, more initiative and independence and sensitiveness—it may turn out that instead of smoothing the work of the institution with a flaw in it we have made something much more explosive than before. "The owner of an estate worked by slaves had only to be an intelligent and kind-hearted man in order to be surrounded by

happy faithful workers, a benevolent autocrat in the midst of grateful and devoted followers." Will he maintain this, if the slaves are to be of that Nordic race which he most esteems?—Vikings, Dorians, Englishmen?

> "Thirdly, and perhaps most important, the increased intercourse between peoples, which is a leading feature and condition of progressing civilisation, inevitably weakens, when it does not altogether destroy, the influence of the customs and moral traditions by which our lives are guided. Instead of being moulded insensibly to conform to the customs and traditions which have sufficed to bring our forefathers safely through the perils of life, . . . we are confronted by ever more numerous possibilities of choice between rival customs and traditions and new beliefs and theories. We are called on to choose wisely, to steer our course warily, among untried but perhaps attractive novelties, new religions, new social theories, new ethical precepts. And the result of all this is inevitable: it is the price that must be paid for progress: not only do the customs and traditions to which each man adheres exert a less powerful sway over his conduct, but also the harmony of the society in which and by which he lives is weakened and disordered." (p. 38).

"Are the innate qualities of the rising generation such as will enable them to rise to the level required?"—But this is a battle of ideas. Innate qualities will not remove the danger, for they create it. To mere passivity and unintelligence, attractive novelties make no appeal. It is the initiative, the independence, the curiosity that Dr. McDougall praises which enables any such disorder to exist. The more we have of such qualities, the more disorder may come, except so far as we set Truth in the field, looking to her army of thoughts, and to the institutions which form the supply service of that army.

> "In these ways, and in many others, every advance of civilisation makes greater demands upon the qualities of its bearers: and it is, I think, obvious that in these respects our present civilisation has surpassed all its predecessors, surpassed them in the opportunities for leisure and amusement, in the complexity of personal relations, in the variety of customs, traditions, beliefs, theories of conduct, with which we are brought in contact, all demanding on our part the exercise of a wisdom, a self-control, and a degree of devotion to a moral ideal, such as no previous civilisation has required." (p. 39).

I would amend this:—Every advance of civilisation asks more from the structure and content of that civilisation itself. Our present age demands, more than any age of the past, multitudes of wise thoughts and the means of diffusing them and of organising for their increase. It demands a great body of just and far-sighted purposes embodied in fitting institutions, working in the service of an ideal wider, deeper, and more reasoned than any civilisation has formed before us. This culture that we make and that makes us is itself a living thing, which must continually adapt and improve itself to carry its life further. And the more vigorous the stock of its bearers, the truer this saying is.

"If your population is of sufficiently good quality," says Dr. McDougall on page 7, "any institution will work tolerably." But the rest of the book, leading up to Appendix III., is written to disprove this. Its thesis is that modern Europe and America have bred families of such quality, so intelligent and so prudent that, being without a large enough idea to inspire them, and having an economic institution with a flaw in it, they can and do destroy themselves.

IV

My third demur has reference to Dr. McDougall's conception of innate moral qualities.

There is a clear ambiguity in the word 'moral.' Sometimes we use it as a pair to 'mental,' to indicate the feeling-and-willing side of the self in contrast with the seeing-and-thinking. Sometime on the other hand the contrast-word is 'immoral.' Further, there is ambiguity within the moral-immoral pair. A quality may be well and vigorously used in the service of its possessor, or well and generously used in the service of his family and immediate friends and may thus be called good; but it is not fully good unless it is also serving the widest and deepest purpose attainable,—let us say the good of the country, of the world, or of the universe. On neither of these points, it seems to me, is Dr. McDougall's discussion always clear.

Looking up 'moral qualities' in the index of his book, I find that the first reference pairs them with the mental. (p. 82). "We know how a man . . . of normal, or superior, intellectual capacity may fail to make good for lack of moral qualities. . . Are these hereditary?" He says frankly that the question is very difficult and almost untouched by investigation, and he offers in this chapter only one small piece of evidence. The quality cited in this is "power of concentrating the attention," which he presently adds is "essentially will-power," and which he suggests may make the chief difference between British or Americans and the natives of India. I think the special point is unsatisfactory, since it neglects the enormous variations in this quality in the different departments of each person's life.[1] But the important matter is that the quality is moral only as contrasted with mental, or at most because it tends to vigorous action. It may belong to an immoral person and be used with terrific effect for an immoral end.

The same holds on pp. 129–30, where a certain "moral difference" between races is defined as "the difference between providence

[1] 'A savage, accused of being incapable of prolonged attention, will sit for days working at a spear or an axe.' (Carveth Read).

and improvidence." "If a man is to be provident, . . . there must be in him an impulse to save or hoard which finds satisfaction in the act of hoarding, an impulse which prompts him to postpone enjoyment of the pleasure of immediate use to the satisfaction of possession."

But in other passages a further meaning seems to have come in.

> "Professor Terman provides some evidence that there is positive correlation between intelligence and the possession of the better moral qualities, and one of considerable degree. . . . If such hereditary correlation were established, it would be a fact of the very first importance; for the methods of measuring intelligence . . . would then provide an indirect measure of the moral qualities. . . . I have only one other piece of evidence directly supporting Professor Terman's," viz., "Mr. H. V. Race's report on 21 children selected from a large number as showing the highest intelligence. He reports that 'they are highly social in the scientific sense of the term. They tend to have good dispositions and lend themselves generously to the needs of the group.'" (pp. 141–2).

I am amused to notice that Professor McDougall selected this passage as the most characteristic of Mr. Race's report, whereas in my own reading of it I had selected those in which the teacher describes the *improvement* in the children under the new organisation which permitted them to work with their peers, *e.g.*:—

> "A constantly spoke in a surly, critical tone, and did not enter into the activities of the class with apparent interest. He seemed to be somewhat on the defensive. Now he shows a co-operative spirit and we have not heard that surly, complaining tone for two months or more. . . . D was conceited, overbearing and hypercritical. He now shows co-operative spirit and is not at all critical."[1]

Still, I do not wish to dispute that good temper or generosity may be largely innate, nor yet that they may correlate statistically with good intelligence. I remark only that Mr. Race's description (selected by Dr. McDougall) would apply to Robin Hood, and to many a member of a band of political assassins or sneak-thieves. Are there any innate qualities which will rule these out? In a long passage preceding the one just quoted Dr. McDougall suggests, tentatively, that:—

> "The development of the highest moral character only proceeds upon the basis of a hitherto undefined and hereditary peculiarity . . . perhaps of all innate qualities the most valuable possession of any human stock. It is the innate basis of a quality which we may best name trustworthiness. . . . Consider how the punctual and efficient working of any one of our great public services implies a high degree of trustworthiness on the part of a vast number of persons. . . . It is not too much to claim for this quality that it is more important than any other intelligence not excepted, for the maintenance of a high level of civilisation. If, in any people that has attained such a high level, this quality should decline . . . we might expect to see its police force beoome

---

[1] *Journal of Educational Psychology*, Feb., 1918.

> corrupt, its courts of justice less efficient, its criminals bolder and more numerous, its postal deliveries irregular, its railway trains unpunctual and subject to many accidents, its bankruptcies and commercial panics more frequent, its strikes more reckless; and in war, the supreme test, it would, in spite of much bravery and high intelligence, be relatively ineffective." (pp. 139–141).

Dr. McDougall notes that this full quality of trustworthiness is "no simple unit"; that it is "complex and vaguely defined." I find difficulty in determining how much of it he thinks to be ensured by the innate and hereditary peculiarity. His illustrations seem to imply something more than the possession of a complex power; they imply its direction by some complex purpose or body of purposes, whose final end is the good of society as a whole. The power by itself—this natural efficiency, this steadiness of character and organisation—could be used in far other directions. Men have been punctual to do evil, rising up early and doing it. The drug traffic, the smuggling industry, and many a widespread plot against good government, have implied a high degree of trustworthiness on the part of a vast number of persons. The quality is not to be deprecated on this account, since a bad thing well done is so far good, a triumph of good in the camp of evil. But the distinction between the camps, the full meaning of moral as opposed to immorality, the difference between the great criminal and the good citizen, and the difference between our own moments of good citizenship and our own moments of something very different—this is a matter of direction and purpose, or sometimes of their absence. And to hold that this is primarily a matter for eugenics seems to me, frankly, quite impossible. The punctual railway servant and the uncorrupt policeman may or may not have innate qualities in common. What they certainly have in common is not an innate quality, but a sentiment, a principle, a professional pride and honourable purpose which one generation may well hand on to another, but not by physical begetting. Can we really believe that inborn qualities have changed so much for the better since that comparatively recent age in English politics when every man had his price?

One other passage is worth looking at, on page 153, where Dr. McDougall gives a list of "the most valuable of the fundamental innate qualities." They are "intelligence, initiative, providence, the parental and altruistic tendency, curiosity, and trustworthiness." Every one of them, I reiterate, may be used wrongly as well as right. Even the parental and altruistic tendency must be the same that presses a man to sin against the public service to get a job for his son or his friend. The intelligence and initiative, which help to make a great leader, help also to make a great assassin. The curious, rich, vigorous nature is exposed to temptations and liable

to sins which never come near the weak-minded. The greater the man, the more variously and catastrophically he may do wrong.

Therefore—and this is all-important—it is on the foothold of an ambiguity that Dr. McDougall has passed over a great gulf to the final hope of his book.

> "If the present tendency can be reversed, and the birth-rate of the superior half (of the population) be maintained at a higher rate than that of the inferior half, then, even though the difference be but slight, we may face the future with a well-grounded hope that we are building up the most glorious civilisation that the world has ever seen, the reign of justice, freedom, and kindness throughout every land." (p. 193).

In final discussion of this most important statement, we have to notice yet one more instance of the ambiguity which besets ethical terms. A man may be said to act morally, or to be just or kind, whenever he is acting up to his lights and doing his best. Morality in this sense is estimated according to the presence of good will, and the man is called just even when through lack of understanding he is doing gross injustice. On the other hand when a writer speaks of "the reign of justice and kindness," he means presumably a fuller sense, in which the deeds done not only are well meant, but are really the best that can be done for the good of the whole.

I am quite unable to see at present that eugenics can affect the level of morality in the first sense. I can see no evidence for it. It seems far more reasonable to hold that the good will (widely understood) is present in all human nature and even in every living creature, though everywhere it is often overcome. Just as the tendency to appear truly is a common property of every object (though every object sometimes appears delusively instead), so the tendency to do as well as possible should be a common property of every living subject (though everyone so often fails). This is a foundation question of moral philosophy and cannot be settled here.[1] But if the eugenist answers it differently, the burden of proof is on him. My previous discussion has proceeded on the ground that heredity may determine every quality, but not the service in which from hour to hour we decide to use it.

In the second sense the question is different. I am willing to agree that innate gifts, intelligence, imagination, sympathy and the rest, bring enlightenment to the moral as to the intellectual side of the world. I agree willingly also that men differ in innate ability to appreciate certain goods. The justly-meaning master

[1] My statement, of course, is much abbreviated. We need also the analogy between the presumed consistency of all truth and the hoped-for consistency of the goods of all lives; as contrasted with the frequent clashing amongst appearances which are 'true as far as they go,' and amongst desired ends which are 'good as far as they go.'

will be better able to be really just if he can enter into the stormy desires of the servant who has failed him; and the kind parent will be less likely to stifle his son's life if he himself loves freedom and adventure. Finally, I agree with Dr. McDougall (p. 137) that many children, and some children more than others, are naturally quick to admire moral beauty.

Thus, as I said at the beginning, I agree in principle with Dr. McDougall's main end. If we can provide for richer natures to be born, let us do so.

But to hold that this is the sufficient means, or the chief means, for bringing about the reign of justice, freedom and kindness in Europe, in Africa, and in the Doncaster district—this seems to me like saying that eugenics will be the chief means for perfecting the Calculus of Variations or for getting into touch with Mars.

Surely we must recognise the extreme narrowness of the limits which shut in the work of an unaided human mind. We might manage to breed such a race that every man could discover the science of number within his own lifetime, as far as the decomposition of 15. We might produce a mathematical genius in each generation who could count up to a hundred before he died. But will any eugenist, by eugenics alone, promise us so much as the first book of Euclid? The logic of morality, the finding out what is involved in meaning well, is a science more voluminous than mathematics, and no less endless. A gifted child in a fortunate environment, even untaught and even without institutions to learn from, might see and value justice, freedom, and kindness in simple forms, adequate to a paleolithic life. But their working-out in a world-society or an empire—no!

Therefore I return to my central conclusion. The extension of Good, as of Truth, can go no further if we neglect the fixing, the embodiment, the passing on of what we have attained. Custom and institution, continually corrected and improved, must form the world-literature of the world's good. Such is the importance of this sphere of organisation and thought—the sphere for which, when we divide it from its human bearers on the one hand and the world of nature on the other, we find no name but 'social machinery.' It is a living sphere, for each man enters into it with a new affirmation, believing anew and valuing anew the belief and the purpose that were formed before him. The life we give is returned to us with immense extension of our private lives, and upholding strength. And with this strength we may and should amend what we have received from our own past or from our fathers before us.

One such amendment may well be found in the measures some eugenists propose. But why should they despise all other amendments?

FOREIGN INTELLIGENCE

The United States

This year there has been considerable exchange of lecturers and co-operation of a similar kind among the universities. Prof. McDougall has given a number of lectures in Chicago. Prof. Ogden, of Cornell, gave courses in educational psychology at Harvard during the second semester of the outgoing academic year. Prof. W. V. Bingham, of the Carnegie Institute of Technology, will teach at the Harvard Summer School. The Summer Schools in the various American colleges will probably not have as large a staff of psychologists this coming season, because many lecturers are expecting to attend the Congress at Oxford.

A scientific investigation of 1,000 superior children is to be undertaken by Prof. Lewis Terman, who has been selecting the most gifted children in California, and Prof. Bird T. Baldwin, Director of Child Welfare Research Station. The latter will organise and direct the most gifted children in California.

It is evident that in spite of the sallies in some journalistic quarters against the validity of the intelligence tests principle, mental measurement is advancing and is yielding results.

An extensive investigation of mental and physical development has been initiated during the last academic year by Prof. Walter F. Dearborn and the staff of the Psycho-Educational Clinic of the Harvard Graduate School of Education, with the aid of a subvention from the Commonwealth Fund. The intention is to make a series of repeated measurements and observations of the same individuals over a period of ten or twelve years. Mental development is to be studied by means of group and individual intelligence tests and tests of school accomplishments. Among the indices to be used to estimate physical growth are changes in bodily proportions in the ossification of the carpal bones (observed by means of X-ray photographs), and in dentition. The initial series of measurements has been applied to over 2,000 children.

Reports of work in the various laboratories are to hand as follows :—

Boston.—The organisation of the Boston Psychopathic Hospital includes a department of psychology under the direction of Dr. F. L. Wells, which undertakes the routine examination of cases by psychometric and allied methods, and is also concerned with teaching and research. The personnel consists of a Chief of Psychological Laboratory and three assistants, with a varying number of students and occasional volunteer workers. The most generally known psychometric methods in routine use are the Stanford-Binet scale, the Myers Mental Measure, and a group of the principal performance tests, also organised into a scale. Last year the total of routine examinations was 1,541. Research is in progress along three lines. The dominant topic is the measurement of emotional response. The time element in these is at present being studied. There is also under way a comparative study of the Stanford and Performance types of tests. Also some investigation of " intelligence " as related to ordinary social adjustments and an inquiry into the theory of special abilities.

Waverly.—The problems studied by Dr. Lundholm at the McLean Hospital include :—

(i). The simple reaction times to sound stimuli were followed in cases of manic depressive insanity for long periods of time, and it was demonstrated that an increase of the standard deviation of ten reaction times indicated the onset of a manic excitement, before any clinical signs could be seen in the ward. Thus an excitement could be predicted on the bases of reaction times. The results are given in a paper, " Reactiontime as an indicator of emotional disturbances in manic depressive insanity," read in the Boston Society of Neurology and Psychiatry, and published in *The Journal of Abnormal Psychology and Social Psychology.* The principles of the long-section method in the study of insanities was pointed out in a paper read at the meeting of the Am. Psychiatric Ass. in Quebec, 1922. This paper was published in the *Am. Journ. of Insanity* under the title " Long-section Method, contra Cross-Section Method in the Study of Mental Disease."

(ii). A study of " creative imagination " in normal and insane people is being carried on. A paper on the subject will be read in Detroit this summer, at the meeting of the Am. Psychiatric Ass.

(iii). A test to study idiosyncrasies and complexes has been worked out and is at present to be standardised.

Harvard.—Graduate Researches at Harvard University in Psychology for 1922–3 hitherto unreported :—

> Mr. Karwoski has been conducting experiments in the correlation between memory and size of visual stimulus, with a special problem on duration and size of visual after-image.
>
> Mr. Hulin has been working on the tactual illusion of movement as found by Benussi and others, with special reference to the theory of phase-relation.
>
> Mr. Young has just completed his investigation of the correlation of certain capacity tests in hypnotic and waking states.
>
> Mr. Langford's problem is the fatigability of various colour sensations.
>
> Miss Cutler is studying the phenomenon of " shift " (as of attention, etc.) as involved in McDougall's reversible windmill illusion.
>
> Miss Findley has been examining the materials of Henning's " Smell-Prism " doctrine.
>
> Miss Murphy has been conducting an investigation on the aesthetics of musical rhythm isolated from tonal melody.
>
> In addition to these Profs. Langfeld and Starch have been testing and interviewing a large number of persons at the Harvard Psychological Laboratory with a view to studying the problem of vocational guidance.

The other investigations have already been reported in a previous issue of *Psyche.*

Clark University.—It is regrettable that Clark University, which at one time was famous for its psychological department, has definitely decided to dispense with its graduate department

in psychology. The last doctorate in psychology will be given probably next year.

Publications.—The most important recent psychological publications are G. M. Stratton's *Anger, Its Religious and Moral Significance*; R. H. Gault's *Social Psychology*, and S. C. Kohs' *Intelligence Measurement*. We must not forget the usual crop of psychoanalytic books, such as *The Hidden Self and its Mental Processes*, by H. E. Hunt, and *Your Inner Self* by L. E. Bisch. A number of text-books are to make their appearance very shortly, so that in time we may be able to say—so many psychologists, so many text-books.

A. A. ROBACK.

ITALY.

Detailed reports of the Third Italian Congress of Experimental Psychology (Naples) are now available. The inaugural discourses were delivered by Prof. Senator L. Bianchi and by Prof. F. Kiesow. Prof. Colucci of Naples read a paper on "Psychology and the Biological Sciences," emphasising on the one hand the close connection between psychology and physiology on account of the affinity of their methods of research; and on the other the mutual assistance which psychology, physiology, psychiatry and anthropology can render one another in many common fields of investigation (*e.g.*, in the study of sensations, somatic emotional repercussion, cerebral localisation, and the psychical evolution of the race).

Prof. De-Sanctis (Rome) dealt with "The Social Applications of Psychology," outlining the recent development of psychotechnology. A science, he maintains, affirms itself as autonomous, when it succeeds in becoming socially useful. At present psychology, by offering vocational guidance and aiming at the improvement of the technique of labour, is able to contribute greatly to the progress of society. He defended Taylorism against recent attacks, giving interesting examples to show the advantages which might be derived from its intelligent application. He concluded by demanding a closer connection between scientific work in psychology and its practical applications. This challenge gave place to a lengthy discussion, in which stress was laid on the great difficulty of selecting mental tests for the determination of professional aptitude: either such tests are chosen so as to give only general indications about the grade of development of a given group of mental functions (*e.g.*, attention, reaction, time, sensory discrimination, etc.), and then the examination is mostly insufficient to prove an aptitude for any specialised work; or an endeavour is made to reproduce in the laboratory actual tools, etc., with which candidates intend to work (according to the method followed in Germany by Pierkowsky), and then it is more profitable to have the work performed under the ordinary conditions of industry and measure actual productivity. The examination thus loses its psychological character, and becomes purely technical.

Besides these general communications there were many special discussions. Prof. Gemelli (Milan), ("Experimental researches on humour") contended that humour is always based upon contrast, but the spectator must be in a state of superiority as to the value

of the subject matter presented to him, and a sudden passage from the state of seriousness to the opposite is also essential. Prof. Kiesow (Turin) communicated in the name of Dr. Gatti, "Weber's law in the tactile sensibility." By isolating on the skin a "tactile point" and stimulating it, Gatti found that Weber's law is confirmed with great exactness within a wide zone of intensity, which is much larger than that established by Stratton and Kobylecky. Beyond the limits of this zone there are regular deviations depending, according to Kiesow, on the greater difficulty of judgment for the feebler stimuli, and for the stronger ones on the fact that they do not produce pure tactile sensations, but also those of pain. (This paper is published in *Archivio Italiano di Psicologia*, 1923, No. 3). Prof. Kiesow also communicated in name of Dr. Ponzo, "A contribution to the psychology of testimony" (the flag experiment). It was shown that 55 per cent. of the subjects were unable to arrange in their right order the colours of the national flag, which they see almost every day in the streets.

Prof. Saffiotti (Palermo), "On the personal equation and its practical signification," proposed that in psycho-technological measurement the most frequent instead of the mean value should be taken as the index of reaction time. Saffiotti also contributed a paper "On the weight of colours," dealing with an interesting combination of illusions. Objects of equal volume seem to differ when they are differently coloured; the volumes which appear different seem also to be of different weight, and therefore the same object differently coloured will seem to be of a different weight.

Dr. Senise (Naples) ("Pathological aesthetics") maintained that the aesthetic feelings can be diminished, increased or perverted in diseased persons. He examined various mental diseases in which these alterations were observed, and concluded with the affirmation that a diseased man can never produce a perfect work of art, but only fragments. A perfect work is the product of genius, which has nothing in common with madness.

Prof. Gemelli (Milan) in "Researches on the voluntary co-ordination of movements," explained some interesting psycho-technological experiments with illustrations of new apparatus for the examination of drivers.

Prof. Bonaventura (Florence) discussed "The value of psycho-physics," and showed that in everyday life we wrongly treat visual spatial data as the direct revelation of external reality, with the conclusion that psychophysics may be made an excellent instrument of analysis of the most complicated mental processes.

Dr. Scuiti (Naples) presented the results of his researches on the psycho-pathology of handwriting and illustrated a new apparatus of Prof. Colucci for the analysis of writing movements. Prof. Gradenigo (Milan) illustrated the new apparatus of Prof. Doniselli for the stroboscopic visualisation of vocal sounds and its application to the education of deaf mutes, a new apparatus for research on the threshold of auditory sensations, and an instrument for the composition and resolution of sounds.

The next Italian Congress of Experimental Psychology is to take place in Florence in October next.

R. HELLER-HEINZELMANN.

FRANCE.

The first of the two volumes of the long-promised *Traité de Psychologie*, written under the direction of Dr. G. Dumas, Professor of Experimental Psychology at the Sorbonne, by 25 authorised contributors, has at last been published, and is of such importance as a landmark in the development of French psychological thought that it deserves all available space in the present issue.

In the Introduction he has written for this Treatise, Dr. Dumas gives us the characteristics of French Modern Psychology, of the views held in common by all his collaborators and of those special to some only.

All the contributors agree that Psychology must free itself of ontological speculation, must be experimental, founded on facts only, and laying all the positive sciences—from biology to sociology —under contribution.

But they disagree on more particular points: in the way of stating the problems, and in the vocabulary used there will be found associationist, rationalist, Bergsonian, and synthetic tendencies—under their psychological aspect, of course, and without the philosophical systems to which they correspond. One can recognise, for example, a Bergsonian tendency in the chapters dealing with *Language* and *Images;* but in the chapters on Psycho-Physiology it is the associationist and atomistic terminology which is generally used; elsewhere the influence of Janet and Paulhan prevails, with a "synthetic" explanation. In the chapters on "Intellectual Phenomena" a very firm rationalistic tendency can be observed; though in several cases the rationalistic vocabulary is used only because it is more convenient.

But in most of the explanations suggested, the "schemas," the "directions," the "tendencies," seem to have to-day the rôle which theories of the "association of ideas," or "images," or "reasoning" formerly had. It is interesting to remark here that each of these different theses has its own physiology, for—as Bergson points it out in *Matière et Mémoire*—Physiology, when applied to the explanation of psychological facts, has hitherto but translated into its own language the general views of the Psychology of the day: the theory of psycho-physical parallelism corresponds to that of psychic atomism and associationism; Fleshig's theory, according which the brain is divided into zones of projection and zones of association, corresponds to the psychological doctrine called rationalism.

Some of the physiologists contributing to the Treatise keep Bergson's criticisms in view, chiefly in the chapter on Language; some adopt a parallelism which is no more the static parallelism to which Bergson objects strongly, and which is akin to Paulhan's views.

It appears that the notion of "nervous centre," as in Taine's integral parallelism, is now no longer admitted by the physiologists, except for the most elementary processes: they now agree that the same elements of the brain can, by various and more or less systematic combinations, produce the most complex mental phenomena in all their diversity.

The criticisms directed against psychic atomism have had an influence even on the domain of Mental Pathology, specially in all that concerns the problem of hallucination. Esquirol, Falret, Baillarger—who, in the last century, were the first to start in France the scientific study of the mental diseases—and more recently Taine, have believed an hallucination to be an exteriorised image, possessing all the objective characters ordinarily belonging to sensation. But the modern physiologists find it very difficult to keep integrally, even in restraining the number of the cases to which it can be applied, the atomistic and representational view of hallucination. In such conditions it is peculiarly difficult to conceive an anatomico-pathological and parallelist theory of hallucination.

Another divergence of opinion arises *à propos* of the value and strength of sociological explanations in Psychology. While many psychologists, though ready to give sociology its due, keep for Psychology—as its own department—the study of individuals isolated by the abstraction of their social milieu, a certain number of sociologists—and by no means the lesser, explain mental functions by social life and found their researches entirely upon the comparative method. Following Auguste Comte, who first expressed this view, they contend that everything which, in man, is not a mere reaction of the organism to external or internal physical excitations, must be explained socially. As Comte thought that he had sufficiently demonstrated by his "Law of the three states" (theological, metaphysical, experimental or "positive"), the course of the evolution of the human mind in general and also in any particular society, he did not think it worth while to begin with a comparative study of mental functions in the various types of human society. The followers of Comte, Durkheim, Lévy-Bruhl, Mauss, Fauconnet and Davy, developed their master's view by submitting it to experience. In contrast with the English sociological school, which takes as starting point the notion of a human mind identical through all times and in all countries, the French Sociological School explains the formation of the mental functions by the influence of social life, instead of deducing them *a priori* from the concept of "human nature," and studies *by the comparative method* the origin and development of these functions. Our moral and religious feelings, all our tendencies, which are not, like hunger, thirst, sex instinct, directly connected with excitations of the organism, are the work of society, as are the transformations of our animal instincts into socialised instincts. It is society, too, that creates the concepts, and the general principles (identity, etc. . . .) which constitute the frames of our thought, and the intellectual functions of classification, abstraction, generalisation. This is the sociological thesis adopted in several chapters, chiefly in those on the *Emotions* and on *Will*.

But other tendencies are also represented: The Reaction Psychology, with Pavloff and Bechterew; Behaviourism in the chapter on Animal Psychology; and in the chapter dealing with Hysteria we find an *exposé* of Dr. Janet's behaviourist and dynamic conception.

CAMILLE NONY.

CURRENT LITERATURE

Remembering and Forgetting. By T. H. PEAR. (Methuen, 7/6.)

Though Professor Pear disclaims the intention of producing a text-book on Memory, he has succeeded in collecting within these 250 pages almost all the material which the student of memory-processes could require. Moreover, he has told his story so pleasantly and so lucidly that the reader without previous knowledge of psychological jargon can find his way about with ease—from the initial distinctions between percept and image to the concluding discussion of the extent to which muscular skill can be called intellectual (p. 208), and the significance of certain experiments on the arm of a famous doctor-poet. Not the least valuable part of the book is a chapter on how we can contrive to forget anything, which to the modern inquirer is quite as puzzling as how anything comes to be remembered.

At the Moment of Death. By C. FLAMMARION. (Fisher Unwin, 10/6.)

" Do you not think, dear readers," asks the veteran astronomer, at the close of this second part of his trilogy on Death and its Mystery, " that one must be—how shall I put it ?—blind, deaf or something worse, to continue to reject the evidence." And the evidence which this strange and challenging collection of phantasms, visions and previsions is held to demonstrate to all but the bigoted or perverse is in favour of " a psychic element that is imponderable, gifted with special, intrinsic faculties, capable of functioning apart from the physical organism and of manifesting itself at a distance with the aid of forces as to the nature of which we are still ignorant." The scientific value of many of the yarns here recorded is perhaps not higher than that of the average ghost story, but a percentage remains which justifies the claim of the author that a mere appeal to coincidence and illusion is no longer adequate, and that the psychologist must regard the phenomena of death, no less than the functions of the living mind, as within his province. Flammarion's hypothesis (p. 37) of the transmission of *images* by psychic waves between two brains, on the analogy of wave transmitter and receiver, is one with which even materialists have already occasionally toyed.

Problems in Dynamic Psychology. By JOHN T. MACCURDY, M.D. (Cambridge University Press; New York, The Macmillan Co., 12/6.)

It would be hard to find better evidence of the extent to which the discoveries of the psycho-analytic school are influencing orthodox psychology than the present volume. The author, who holds an appointment at the Psychiatric Institute of the New York State Hospitals, and is a Lecturer on Medical Psychology at Cornell, describes Freud's original discoveries as "truly objective phenomena," and considers that "his observations can, in the main, be confirmed by any one who takes the necessary pains."

His book is chiefly an attempt, arising out of collaboration with Dr. August Hoch, whose *Benign Stupors* appeared in 1921, to bring the hypotheses of Freud into line with general biological theory; a task which hostile critics have been too blinded by prejudice to undertake satisfactorily. A great deal of space is devoted to detailed criticisms of Freud's developing views and of his terminology; and in the first hundred pages numerous inconsistencies and ambiguities, such as the three uses of the term repression (p. 48), are usefully pointed out. Part II. is concerned with the relationship of psycho-analytic technique to that of suggestion. Part III. deals with the Preconscious phase, and particularly with the origin of 'Symbols,' symbol-formation being treated as not congenital but acquired. In Part IV., which concludes the whole, some 150 pages are occupied with Instinct, and the final discussion of herd instincts reminds us that "it is the herd instinct which stones the prophets, persecutes Galileo, puts convention above abstract justice, cements the uncritical electorate, rushes wildly into war. The world of men suffers, and has suffered more from such insensate devotion to the herd than from all crime, insanity, or nervousness."

As a contribution to the growing body of technical psycho-analytic criticism the book has undoubted value. The author was a friend of the late Dr. Rivers, to whose theories of instinct a chapter is devoted. He does not, however, share Rivers' clear and almost popular style of exposition. Moreover, it is disconcerting to find that he has omitted to consider the doctrines of Jung, "because, quite frankly, I cannot understand them." In view of the success which has attended the translation of Jung's most recent work, such a confession, though courageous, is hardly what might be expected of a critic of the first order.

Our Phantastic Emotions. By T. K. SLADE, B.Sc. (Kegan Paul, 6/6.)

In spite of the assurance of Dr. Ferenczi in his Foreword that Mr. Slade has succeeded in "vivifying with added meaning the findings of accepted psychology," it is not clear what either he or the author would regard as the main achievement of this volume. Mr. Slade writes suggestively on a variety of topics connected with emotion, making use of the literature and method of psycho-analysis, and approaching his subject chiefly from the Viennese standpoint. But he is too often content to point out (p. 74) that

" we are accustomed to use a word in two or more senses and commonly without realising that we are doing so," or to refer this or that activity vaguely to a ' sexual origin.'

As an example of the first we may take his remarks (pp. 48–49) on beauty in women. Of the dozen or more main uses of the term ' beauty ' which aestheticians would be wise to distinguish, Mr. Slade, in common with many modern writers, recognises two; that of a sunset (which we cannot possess), and that of possessible objects ("women are eminently such.") He inquires, " why has not this distinction been noted in our vocabulary? Verbal association frequently points a solution; here it points a problem." And it is suggested that the vague unconscious impulse behind " acquisition," which is described as " desire for union," and which is dealt with by mystics, " corresponds so closely to the attitude of the conscious towards women that the identity of the term has become established in our vocabulary." Whether or no such a suggestion is more plausible than the simpler psychological accounts already available, it is certainly the sort of discovery to which the study of psycho-analysis seems to lead its adherents.

Again, there is the theory of " Displacement." Why are there politicians? Why philosophy? Why do some people wade avidly through the adventures of Sherlock Holmes? Because (p. 113) " sexual curiosity fails to pass the Censor as such . . . Puzzles, detective stories, politics, philosophy, or anything that presents a query provides channels for the superfluous libido which is undoubtedly of sexual origin." Apparently it is only the fact that the universe is not one large bed which allows it occasionally to present itself as one large query.

Mr. Slade has some good things to say about " The Strong Silent Man," the " Womanly Woman," and so forth in his final chapter on Conscious Phantasies, and he points out that greatly as Freud and Jung may differ on certain points they are in close agreement as to the high importance to be attached to phantasy. We look forward to further contributions from this author, whose first book reveals clearly his considerable gifts of exposition and interpretation.

Tractatus Logico-Philosophicus. By L. WITTGENSTEIN. (Kegan Paul, 10/6. Int. Lib. Psych.)

Since the publication of the earlier work of Mr. Bertrand Russell no philosophical treatise has aroused so much interest amongst logicians, and the small public which follows their newer constructions, than this laconic relegation of philosophy to the position of ' Critique of language.'

" Not at all in Mauthner's sense," says Mr. Wittgenstein, in order to differentiate himself from the German sceptic whose *Kritik der Sprache* has done so much to concentrate attention on linguistic illusions. But just where he parts company with Mauthner is not made clear, for he, too, remarks that " the deepest problems are really no problems," and that " most questions result from the fact that we do not understand the logic of our language." And this, moreover, is the conclusion more elaborately formulated by the authors of *The Meaning of Meaning*, which has

just made its appearance in the Library of which the *Tractatus* also forms part.

To the psychologist Mr. Wittgenstein's aphorisms do not readily commend themselves. "Psychology," he says, "is no nearer related to philosophy than is any other natural science." In vain we are left wondering what is included under psychology, and what the author conceives himself to be doing when he lays down his extraordinary doctrine of the necessarily representational character of thoughts (2. 1 to 2. 18), and of correspondence between symbol and fact (3. 21). "Does not my study of sign-language correspond to the study of thought processes which philosophers held to be so essential to the philosophy of logic?" he asks; and the answer would seem to be—Possibly; but not to the study which psychologists now regard as an essential preliminary to logic. It is to be hoped that Mr. Wittgenstein, who was a welcome visitor to Cambridge in the happier days before the war, will soon return to elucidate this and other difficulties in his remarkable work, as well as to give mathematical logicians the benefit of his more recent reflections.

It is worthy of mention that the publishers have thoughtfully reproduced the original opposite the English translation, which was made under the author's supervision, and must have been an unusually arduous task. It will therefore have a double value for mathematicians and psychologists who wish to revive their memories of the German language; moreover, since every proposition is numbered after the method of Russell and Whitehead's *Principia Mathematica*, it is particularly easy to follow the argument *verbally*, though whether more than six readers can be found capable of following it throughout with understanding is an open question. The author declares that its object would be obtained if there were *one* such—which is not altogether complimentary to Mr. Russell, who contributes an interesting introduction in which he says that the book "deserves by its breadth and scope and profundity to be considered an important event in the philosophical world," and that he "cannot see any point on which it is wrong." As suggested above, however, there is ground for supposing that Mr. Wittgenstein has rather started from certain conclusions to which logicians have hitherto been strangely blind than evolved a theory in the normal way; and the fact that these conclusions (as to the misleading nature of verbal forms) will for the most part commend themselves to students of linguistic psychology says nothing in favour of the logical structure he has elaborated in their support, though the purely logical discoveries which he has made during the process would seem to be of the first importance.

Some interesting reflections are suggested by a sentence in a volume which has just been published by our Harvard correspondent, Dr. A. A. Roback, entitled *Behaviourism and Psychology*, to which we commend any of our readers who desire further orientation on the latest American movement. "The fact that the doctrine has not been accorded the recognition of so much as being discussed anywhere except in England, is," says this vigorous

critic of Professor Watson and his followers, on page 194, " sufficient evidence that the European mind is impervious to this phase of the modern materialistic movement." In opposition to this it may be urged that the French still consistently neglect all work which has not been directly inspired from Paris—that Pragmatism was only heard of because William James introduced Bergson to the English-speaking public, while the contributions of Freud, Rivers and Moore are still as little known as those of Paulhan or Dumas in England ; and that for the past five years Germany has been almost completely cut off from intellectual communion with the English-speaking world. We would remind our American friends that even a small book such as that of Dr. Roback, the English price of which would be about 6/-, cannot be sold in England for less than 16/-, and then only by booksellers who are prepared to supply it at cost price. It is time that an effort was made by scientists to break down these barriers, for if it is impossible to expect an inhabitant of Central Europe to squander a month's income on a small book of less than 300 pages, it is becoming equally difficult to persuade English Libraries to expend three times their expected cost on volumes for which there is no immediate clamour, or to induce American booksellers to import literature without some " vital human message " through the tariff barriers which Washington has seen fit to impose.

" Psyche " is published Quarterly, and will in future appear on the first of the month, in October, January, April and July.

The subscription is 20/- per annum, post free; to America Four and a half dollars.

All business communications should be addressed to the Manager, all MSS. to the Editor, " Psyche," 68, Carter Lane, E.C.4.

A stamped addressed envelope should be enclosed where the return of MSS. is desired.